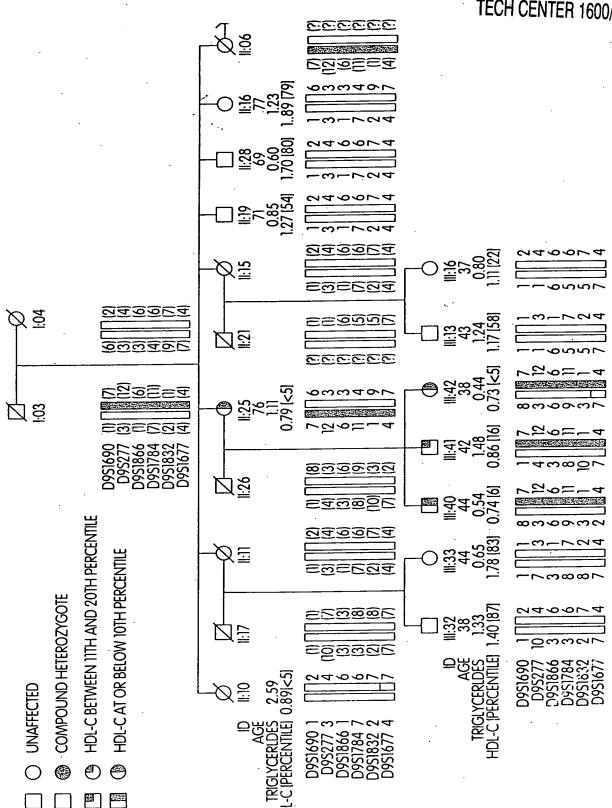
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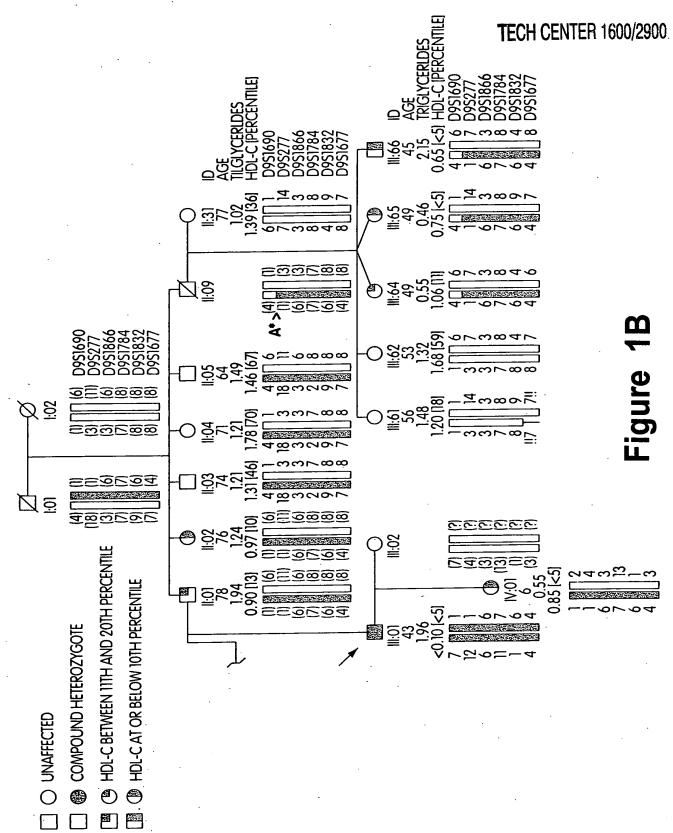
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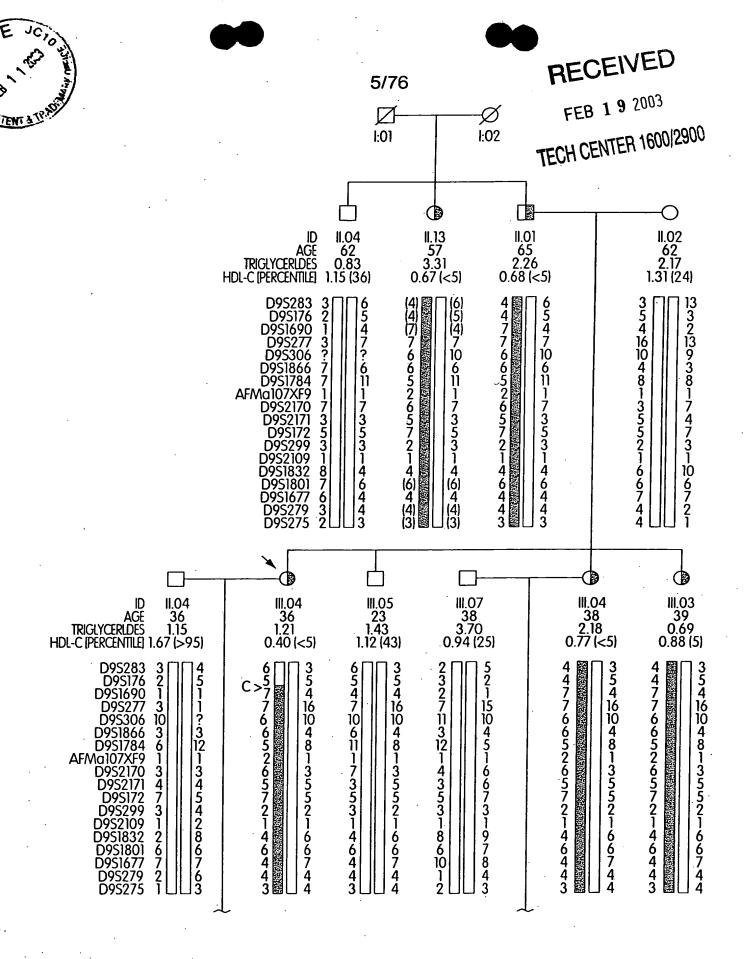


Figure 2A - (1)







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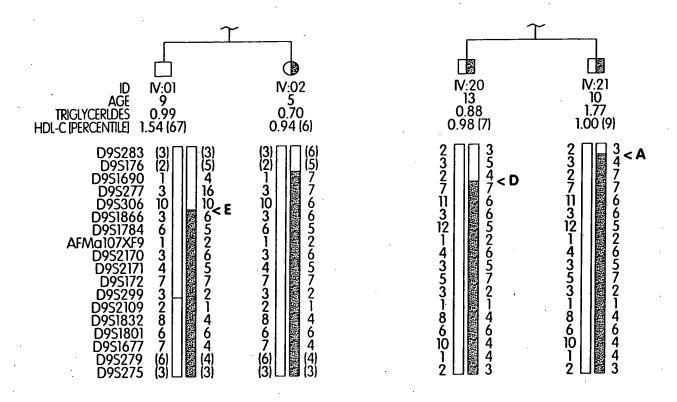


Figure 2A - (2)

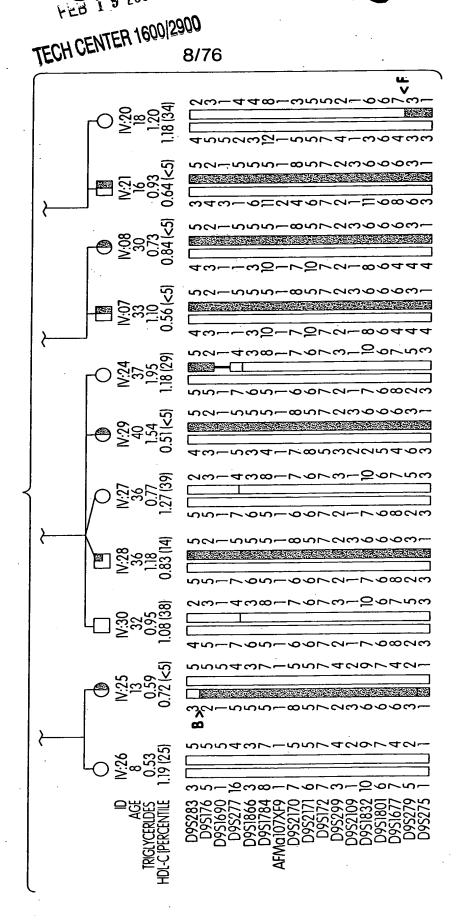
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# Figure 2B – (2)

# Figure 10A

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5225

CATTTCCCCCACTGTTTCAG

**BAAGCTACCAGCCCATCCT** 

CCAAGGCTTTCTTCAATCCA

252

CCGTTCCTTATATCCTCAGGTG

AGTCAGGTTTCCGGTCACAC

**3CCTGTCACAGAGAAATGCTT** PTACGGAATGATCCTGTGCTC

199

exon

exon

exon exon

exon

CACCAGAAGAAGGAGCATGG CTGGACTCGTAGGGATTTGC

GTTTGTTGCAGATGGGGAAG

CCTTGTACACACTCGCACTGA

rgttgtccacaggttccaga TGAGGTTTATGGGCATGGTT

exon exon

exon

Angritincernegenerge

**PCTGAAGTCCATTCCCTTGG** CAATGTGGCATGCAGTTGAT

**ICAAGTGCATCTGGGCATAA GCTAAAGGCCATCCAAAGAA** 

GATCCGTTTAACCTGCCAAC

ATGCCCCTGCCAACTTTAC

PATCAATCCATGGCCCTGAC

AGAGTCCCTGCCCTCCTTCT

**AAGGCAGTCAGCAGTGTC** 

9

CGTTAGAGACTGAATCTTTGTCCTG

GICCIGCCITCCACAGITG

TGTTTATTGGAAGATCGGTGAA

CACTCCCATATTTCAGAACTTGA

GGGAGCTGCACAGTGGATA

ATCTGCCCTTTCTTGTCTGA

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CTCTGCAGCTGTTCCCCTAC

GGGGAACATCCTGTGCTTAG

CATTGGTGAGTGTTTCCCT AGTCAGCAAACTGCTGGGTT

85.55 86.55 86.55 86.55 છ 2

**ICATGGATGATTTTATGTGCTT** 

ATTGCTCCATCCTGGCATAA

SCGTGTGGAAAAGCCATAAG

*<b>REATCGCATATTCTACTTGGAAA* **SCCAATCATACAACAGCCCT** 

**FGGGTTCCATAATAGAGTTTCACA PCCCTTTTATTTTAGAGGCACCA** CATCAGGAATTCAAGCACCAA

CTTGACCTAATTTCAACATCTGG

exon

3GGTTCCCAGGGTTCAGTAT

CTAGGAAGCTGGAATGCTG

Catgratgraggacagcatga

*IGTITICAAAGATGCTTCTGC* 

CAGGAACATTAGGCCAGATTG GGTAGTTACGTGTTAGGGGCA

35

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Common:			אבטאים אבראבפוו	Bally and Germank entry	V AJU12376.1):	
T150C   Do Change   Public Sequence: A1526   Correct sequence: C839T   Do Change   Public Sequence: C6738T   T1495T   Public Sequence: C5017T   P1588L   Correct Sequence: C577T   P2108L   Correct Sequence: C6577T   P2108L   Public Sequence: C6577T   P2108L   Public Sequence: C6577T   P2108L   Correct Sequence: C6577T   P2108L   Correct Sequence: C6599A   Dot applicable   Public Sequence: Correct Sequence: C6899A   Dot applicable   Public Sequence: C6577T   C6899A   Dot applicable   Correct Sequence: C6777T   Dot applicable   Correct Sequence: C6799T   More Common: Less	Exon/Inrton	Mucleotides	Amino Acid Change			SEQ ID NO:
C4738T	2	T150C A152G		Public sequence: Correct sequence:	TGTCAGCTGTTACTGGAAGTGG TGTCAGCTGCTGCTGGAAGTGG	168
C4738T	7	C839T	1 1 1	1041	AGGAGCTGGCCGAAGCCACAA AGGAGCTGGCTGAAGCCACAA	170
C5017T	33	C4738T	T1495I		AATGATGCCACCAAACAAATG AATGATGCCATCAAACAAATG	172
G5995A R1914K Public sequence:   C6577T P2108L Correct sequence:   G6899A not applicable Public sequence:   G6899A not applicable Public sequence:   Correct sequence:   Less common:   Less common:   C2799T R909Stop More common:   C2860T T929I More common:   Less common:   L	35	C5017T	P1588L	Public sequence: Correct sequence:	GAGGTGCCTCCGATGACCACA	174
C6577T	43	G5995A		Public sequence: Correct sequence:	TYCCTTAACAGAAATAGTATC TYCCTTAACAAAAATAGTATC	176
G6899A	48	C6577T			GGAAGTGTTCCAAAAGAGAAA GGAAGTGTTCTAAAAGAGAAA	178
A1864G   Q597R   More common:   delta CTT 2151-3   deltaL093   More common:   delta CTT 2151-3   deltaL093   More common:   delta CTT 2151-3   deltaL093   More common:   C2799T   R909Stop   More common:   C2860T   T929T   More common:   T3346C   M1091T   More common:   Less	49	G6899A		1001	AGTAAAGAGGACTAGACTTT AGTAAAGAGGAACTAGACTTT	180
A1864G   Q597R   More common:   delta CTT 2151-3   deltaL093   More common:   delta CTT 2151-3   deltaL093   More common:   delta CTT 2151-3   deltaL093   More common:   C2799T   R909Stop   More common:   C2860T   T929T   More common:   T3346C   M1091T   More common:   Less	Mutations:					SEO TO NO.
delta CIT 2151-3         deltaL093         More common:           G2385A         V771M         More common:           C2799T         R909Stop         More common:           C2860T         T929I         More common:           T3346C         M1091T         More common:           Less common:         Less common:	13	A1864G	Q597R		GCCTACTTGCAGGATGTGGTG	182
G2385A	14	delta CTT 2151-3	del		CCTCATTCCTCTTCTTGTGAGCG CCTCATTCCTTTTTTTGAGCG	184
C2799T R909Stop More common:	15	G2385A			GCAGGACTACGTGGGCTTTCAC	0 1 1 8 P
73346C M1091T More common:  T3346C M1091T More common:	18	C2799T	R909Stop		AAAAGTCTACCGAGATGGGAT AAAAGTCTACTGAGATGGGAT	188
T3346C M1091T More common:	18	C2860T	T929I		GGCCAGATCACCTCCTTCCTG	190
	22	T3346C	MIOSIT	More common: Less common:	ACACACCACATIGGATIGAAGCG	192

# Figure 11A

RESC, OUT

194	196 197	198	200	202	SEQ ID NO:	204	206 207	208 209	210 211	212 213	214	216	218 219
CCTGGAAGAAGTAAGT CCTGGAAGAACTAAGTTAAGT	GCTGCCTGTGTCCCCCAGG	TAGCCATTATGGAATTACTGCT TAGCCATTATCAATTACTGCT	GATGAAGATGAAGATGTGAGGCGGGA GATGAAGATG/TGAGGCGGGA	AATAGTTGTACGAATAGCAGG		ACACGCTGGGGGTGCTGGCTG ACACGCTGGGGGTGCTGGCTG	GACCAGCCACGGCGTCCCTG	CATTTTCTTAGAAAAGAGGT	GAAAATTAGTATGTAAGGAAG GAAAATTAGTCTGTAAGGAAG	CCTCCGCCTGCCAGGTTCAGCGATT	TATGTGCTGACCATGGGAGCTTGTT TATGTGCTGACCGTGGGAGCTTGTT	GTGACACCCAACGGAGTAGGG GTGACACCGAGGAGTAGGG	AGTATCCCTC/TGTTCACGAGAA AGTATCCCTCCCTTGTTCACGAGAA
More common: Less common:	More common: Less common:	More common: Less common:	More common: Lega common:	More common: Less common:		More common: Less common:	More common: Less common:	More common: Less common:	More common: Less common:	More common: Less common:	More common: Less common:	More common: Less common:	More common: Less common:
Altered transcript lenght	C1477R	frameshift at aa 1628	delta(E.D)1893-1894	R2144Stop	Position Realitive to SEQ ID NO: 14 Containing Exon 1	8216	8158	7780	7681	7422	7115	7047	6979
splice donor site	T4503C	GG 4958-57 to C	delta AAGATG 5752-7	C6504T	Variants: Position Relative to Xenon cDNA	G57C	(-)4 ins. G	A (-)380 G	A (-)479 C	A (-)738 G	A (-)1045 G	A (-)1113 G	(-)1181 ins. CCCT
Intron 24	30	35	41 0	48	Promoter Var Location	-	2	2	ĸ	2	2	. 2	<b>L</b>

# Figure 11B

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olymorphisms:					
con/Inrton	Nucleotides	Amino Acid Change		Sequence difference/context	SEQ ID NO:
Z.	G548A	no change	More common: Less common:	CTGGGTTCCTGTATCACAACC CTGGGTTCCTATACACAACC	220
9	G730A	R219K	More common: Less common:	GGCCTACCAAGGAGAAACTG GGCCTACCAAAGGAGAAACTG	222
Intron 7	G(+)2383 T	Not applicable	Allele 1: Allele 2:	<u>tytaaaggggtgattagga</u> tytaaagggttgattagga	224
Intron 7	G(+)3035 T	Not applicable	Allele 1: Allele 2:	GAAGAATYYYGYYYYYYYGAYY GAAGAATYYYYYYYYYY	226 227
8	C1010T	no change	More common: Less common:	GCGGGCATCCCGAGGGAGGGG GCGGGCATCCTGAGGGAGGGG	228
8	G1022A	no change	More common: Less common:	AGGGAGGGCITGAAGATCA AGGGAGGGGACITGAAGAITCA	230
Intron 9	(-)42 ins. G	Not applicable	More common: Less common:	AGGAGCCAAACGCTCATTGT AGGAGCCAAAGCGCTCATTGT	232
Intron 13	T(+)24 A	Not applicable	More common: Less common:	AAGCCACTGTTTTAACCAGT AAGCCACTGTATTTAACCAGT	234
15	A2394C	T774P	More common: Less common:	CGTGGGCTTCACACTCAAGAT	236
15	G2402C	K776N	More common: Less common:	TCACACTCAAGATCTTCGCTG TCACACTCAACATCTTCGCTG	238
Intron 14	C(+)16 T	Not applicable	Allele 1: Allele 2:	GCAGCCTCACCCGCTCTTCCC	240
17	A2723G	1883M	Allele 1: Allele 2:	AGAAGAGAATATCAGAAATCT AGAAGAGAATGTCAGAAATCT	242 243
Intron 17	C(+)2000 G	Not applicable	Allele 1: Allele 2:	GCGCAGTGCCTGTGTCCTTA	244 245

# Figure 11C

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21	T3233G	no change	More common: Less common:	GATCTAAGGTTGTCATTCTGG	246
Intron 21	G(+)118 T	Not applicable	Allele 1:	CTCTTCTGTTAGGACAGAAGAGA	248 249
Intron 21	A(+)563 G	Not applicable	Allele 1: Allele 2:	CATTCTAGGGATCATAGCCAT	250
Intron 24	G(+)321 T	Not applicable	Allele 1: Allele 2:	AAGTACAGTGGAACAACG AAGTACAGTGTGAACAACG	252
Intron 29	A(-)624 G	Not applicable	Allele 1: Allele 2:	AATTCCTAAAAATAGAAATGCA	254 255
Intron 31	T(+)30 C	Not applicable	More common: Less common:	GGCCCCTGCCTTATTATTACT	256
Intron 33	A(+)732 G	Not applicable	Allele 1: Allele 2:	TGAGAGAATTACTTGAACCCGG	258
Intron 33	て(+)898 エ	Not applicable	Allele 1: Allele 2:	TTTGCTGAAACAATCACTGCA	260
Intron 34	C(+) 234 T	Not applicable	Alele 1:	AACCICAGITICCCICATCIGIG AACCICAGITITICICATCIGIG	262 263
34	G4834A	R158TK	More common: Less common:	CTGGACACCAGAAATAATGTC	264 265
37	C 5266G	S1731C	More common: Less common:	TCCTATGTGTCCTCCACCAAT	266 267
Intron 43	T(+)18 C	Not applicable	More common: Less common:	AAGAAGTGGCTTYGTATTTTYGC	268 269
Intron 43	C(+)1665 G	Not applicable	Allele 1: Allele 2:	AACTGATTTGATTGGTATAGCTG	270
48	C6521T	no change	More common: Less common:	CAGGGTCCAACCCGGACCTGA	272
Intron 10	(+)14 ins. T	Not applicable	More common: Less common:	GCGTCAGGGATGGGGACAG	284 285
Exon 16	G2547A	V8251	More common: Less common:	CCACTTCGGTCTCCATG	286 287
Polymorphism This polymor	Polymorphism in an ABC1 BAC contig: This polymorphism is within approxi	matey 200kb of	the ABC1 gene		SEQ ID NO:
	A or G	Not applicable	Allele 1:	TTGGGAGGCTAAGGCAGGAGAA	274

# Figure 11D

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Genomic contig containing ABC1 exon 1: Underline = putitive promotor element

acctcttatagaatgatagaattcctctggaatgattggataacttcatttcatccttgacttttaccttggaggattt cttaccccttttqqcttctcaaatttqactattaaaatqttqcctttaaaaataggaacacagtttcaggggggagtac cagcccatgacccttctgcaaggccccctaactcaaggtagtttccctggaactgtggtttatggaatgtttcaggagt gtgaggaggtataatttaaggctgtcctagcaaggatacccttaaggatagagggcccagtagcatctggaggccagaa aagttaaactgaggcagtcagattagcttcaggctcaattaagctgatgggtcagcctgggagaaattgcaggatgact ctcaatatcccctcccacccccacagcagccacgatctgtctttaatcatgggtgcagtgaacctgttctttcca ggtgtcttggccttcagtaaccttgttaggcttgtccctgaacgtggctaccgatccaaagacacatgatcagagaggc aattagagaacagaccttttccaaagcaagcatgttctgttgggcttagaagtttcatgtcctaatattataggaccct qtqcatctctctqqaqatqaqqcacatqaqtcatatctqtqattcttqcttttqtqtcaacatctcatqaataqqcaat cagagetttggcaccaatgtattttcagttcatatctgatgtagttaaatccacctcctgctttgtagtttactggcaa gctgtttttgatataagacatctagaacactgtaaatatataacatttttatttgtctattatacctcaattacgaaaa agacatctagaagcaacctcatcaagagagatactgaggccgggcatggtagctcacacttgcaatcccattactttgg gaggctgaggcaggtagatcacttgaggtcaagagtttgaaaccagcctggccaacatgttgaaaccctgtctctatta aaaatacaaaaaagttagctgggcttggtggggcacctgtaatcccagctactccggaggctgaggcaggagaatca cttgaacctgggaggcagaggttgcagtgagctgagatcacaccactgcactccaacctgggcaccagagtgagattac atctaaaaaataaaataaagtaataaaaaagagagatattgatagctgttgttggaaatttcaacttccatctcacttc  ${\tt ggtttaatgaaatagctgtcatataatcactgtttttgaaagaggagaattagttgctatctgtacattttgggtatgt}$ gcatataagagttgttgaaaaagttatttcttgagaaaccagctctaatgctaggcaagtcacttgctttggggggaggc  $\verb|ctcagcttctctgtctataagattgcagcaggggtgtagtgggaatgagtcttcaacattccaagagattttatctact|$ gagatgttgacacttgtatgatccctgcttggagacttccctcttctggaacctgccctggctcaggcatgagggctga agacagatttagtgctgtagaagagtagagggcagtcacgggaaggagttcctgtttttcttttggctatgccaaatgg ggaaaaatcctcctatcttgtctttttagtgtcatcctctctccccttttcttcttcttataattctcatctctatc tctcctggaaatgtgcatgtcaagttcaaaagggcacaatgttttggtgaggaagaggtgggagaacacgtgccaggtg agtaaaagtaattttataatcccagctgtcatttaagccaccctttgtgggtagcatatggtccactctctcagttca ttgtcctaaagatgcttcatcagaaaggaataacttccaccccgttactctctgtccccttactctgctttattttct tcqtcaatcctaccaccaccacccctgtttgaacaacccactattatttgtctgtttcccatccctggtagaatagga gccccatgaatgaaggaactttgcttctgttgttcaccactgaatctctaaggtatggaacacacctggcatgtgatag taatgaatatttatctactattcctcttccaaggcgatcacacaataatcaggctttacactatccagttcttaggtct tccaagttatgacttgtgaggtatgttaattatgataatagaaggcagtttatttggttcagatttattgatgtgtaatttaccacagtaagacttcccctttacaaaagtatgatgagttttgacaaatggatacacatgtgtatctaccactgcca tgctccttttcagtctgtcgtcccctccacccatgaccactggtcaccactgcagtgatttctgtccccttcatttcac $\verb"ctttccaga a tgtcatata a a tgga a tcatgcag tatgtag tttttgtgtctggcttattttcttag cattaggct$ tatatttatttatgaggaggtgteteaetetgteaeeeaggetggagtgeggtagegegateteageteaetgeaaeet tttatatttttagtagagatggggtttcaccatgttggccaggctgatctcaaactcttgacctcaggtgatccgccca gtcttttcgacaactaattgtttccagtttttggctattctgtataaggcttctataaatattcacaaatacctaggat gggatgactgggtcatataatagtactgtataaccttagcagaaactgtcaaactattttccaaagtggctcttccatt ttacaattccacagtgtattgagtcccagtgtctccatacacatgctagcacttttaatatttaatttagtgggtatgt aatgatatctcattgtggttttaatttgcatttctctgcagctaatgatgagtgtttctgcttatttgggaaggtttta atttagcagtctgttgtattctgtagatattaataacttcaaaatatcagtggcatttgcagttaaaaatttccttaaaa aattggccaaaggtttccagcagtcacttctgccatgcccaaactgtatgaaacaaggctgaggtgtggagattgtcac attttggcaaggagtgatccacttgggtgactgatgagacccagagagcgtacgcctcgggcttgagggtgaggacggg cgggaagtcgactgcatggccctgctggccttgggaggctgcccagtccttagctaaagctggcagttatgggaaacag

**Figure 12A-(1)** 





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acttagattctattacgtttttcaggatgtcccaggagtcacctgggaagctcagcagtcctttgtgactttcaagcat atggtagaagctgctgaacacagagctccctctttgggggataatttgcccaaatcatttaatcaggcttgagaaatgag gacatccccaagtgcttacgacaagccaggacccttttgcatactaaggaaaacagggatgaaggaaacagaaatggtc tetgetetgacteagaaggtagaaateetetteecageeaagtetteetagggageaegtaggaagggetetgaaeee acgtgtcagttgcaggggaggatatcaggaaaggacattgaagaagtggagacctaagtttgagacctaggcattagcc aggctagcagtgcttgaaaaagtgtcttaggacaagagaactcaccagtgaagtcccagtggtaggagagcgtgcagca tattctgagcctgtatacacatctccagggcattgcttagcaggtgggagtggcaagagagtaggctggagtcacaga agggaggccaggtagaccttggtgagcactggactctatgttcaggtgctgaggagctggcaaaaggttttaagtcggg gagaggcatgttcagatatttggtctagctgagtaactttgggtgctctgtgacaaatggttgggagaccagtgaggtg taactggaaatgtgtatgagggcagaagtgagtgtactgcatttgaaacattgagaaatctagtacatagtactgtctc ttttatatcttttttttttttttttgattttgtttgttcactaacttggaaaactgatgtggaaatgtccct ttggcttcagttacctgagcagaaggggccgggcattgccaaactctcctcttaggacagaattgctcccagtattgat aagcttgcctaagtgtgcccagcaaagccacggtagaactttctactgtggctctatgctacttcttagcaaccttctc catgtgcttcctggagagtccttggagtcagaacctttttcttgaaacccagacactttacttccaagaaaatgctgtc caagaaaactcatccttcctctctctcatgaacgttgtgtagaggtgtgtcttctcttctttgagcttttccactca gggtttaggggaggtgatattctatatttgggtttggctctgggtactgcaacactaggctattaagatttcatcctta ctgctttgcccctcctatctttccagaaacccacaatggatttgctagaaataatggaacgtcctgtttggacaggata ttaaattaagccatgtactgtgttgggaaattatttatattatctcgttgaatccacagtagaacacagttgaacacca tacaaggtaagtattgtcatccttattttaccatgaggaaattgatgcttagagagcataaagccttggccaggggcac atagttgggaagccggggctaattcatgcctgggctctttctgatagttttcctttttaattgtcccdtcctcattgt taccttggggatttcaagagattcatgtagcttctaaatcaacgaactgattcctggagagcagcttctgtatgagaaa aatctagctaattatttatttcagtgtctctggaatgcaagctctgtcctgagccacttagaaaacaatttgggatgac aagcatgtgtctcacaatgctgctctggttgccagtgctgtgctgccagttgtcatctttgaacaaactgatgcagtgc tggtttaactcttcctctttttggagtaagaactttggaggcctgtgtccttctagaagtttgctgagcaaatggtaa acatagtggtaggctgtcttttcttctcagacactgcaatttcctccaatctcttgacttttctagaagttttaatcca agtccttgttgggtggtagataaaagggtattgttctactagagactgaccttggcatggagatctcatttggactcac agatttctagtctagcgcttggttttgtatccatacctcgctactgcattcttagttccttctgctccttgttcctcat gcccagtgtcccaccctacccttgcccctactcctctagaggccacagtgattcactgagccatttcataagcacagct aggagagttcatggctaccaagtgccagcagggccgaattttcacctgtgtgtcctcccttccatttttcatcttctgc ccctccccagctttaactttaatataactacttgggactattccagcattaaataagggtaactgctggatgggtggc tgggatacacagaatgtagtatcccttgttcacgagaagaccttcttgccctagcatggcaaacagtcctccaaggagg cacctgtgacacccaacggagtagggggggggtgtgttcaggtgcaggtgggaacaaggccagaagtgtgcatatgtgct gaccatgggagcttgtttgtcggtttcacagttgatgccctgagcctgccatagcagacttgtttctccatgggatgct gttttctttccagagacacagcgctagggttgtcctcattacctgagagccaggtgtcggtagcattttcttggtgttt tgagacagagtctcgctctgtcgccatgctggagtgtagtggcacaatcttggctcactgcacctccgcctgccaggtt caaagtgctgggattataggcttgagccaccacgcctggccgatggtgctttttatcatttgaaggactcagttgtata acccactgaaaattagtatgtaaggaagttcagggaatagtataagtcactccaggcttgaggcaaaatttacaaatgc tgctgactttgtatgtaaggggaggcattttcttagaaaagagggtaggtctctggggattccagtatgccatttccat cctcagtgtttttggccacctgagagaggtctattttcagaaatgcattcttcattcccagatgataacatctatagaa ctaaaatgattaggaccataacacgtagctcctagcctgctgtcggaacacctcccgagtccctctttgtgggtgaacc cagaggctgggagctggtgactcatgatccattgagaagcagtcatgatgcagagctgtgtgttgtggaggtctcagctga gagggctggattagcagtcctcattggtgtatggctttgcagcaataactgatggctgtttcccctcctgctttatctt tcagttaatgaccagccacggcGTCCCTGCTGAGCTCTGGCCGCTGCCTTCCAGGGCTCCCGAGCCACACGCTGGGG GTGCTGGCTĞAGGGĀACATĞĞCTTGTTGGCCTCAGCTGAGGTTGCTGCTGTGGAAGAACCTCACTTTCAGAAGAAĞACA AACAgtaagcttgggtttttcagcagcgggggttctctctattttttctttgtggttttgagttggggattggaggagg

**Figure 12A-(2)** 





gagggagggaaggaagctgtgtttggttttcacacagggattgatggaatctggctcttatggacacagaactgtgtggt ccggatatggcatgtggcttatcatagagggcagatttgcagccaggtagaaatagtagctttggtttgtgctactgcc caggcatgagttctgatccctaggacctggctccgaatcgcccctgagcaccccactttttccttttgctgcagccctg ggaccacctggctctccaaaagcccctaatgggcccctgtatttctggaagctgtgggtgaagtgagttagtggcccca ctcttagagatcaatactgggtatcttggtgtcaatctggattctttccttcaggcctggaggaatataataactgaga cttgttttatttctgcagagggttctaagccattcacttcccagatgggccaataatgctttgagtaatctggagatca tctttaatgcgcaggtgaatggaactcttccacagagggatgtgagggctgtagagcagagtgaactccctgaaactca aatgtagcttaacatgtctgtaatcaaaatgatcatctttctgagattcaaagggctataagggactttggagagaatt ctaaatttccttttttattatagtgttacttaaatattaggaagttaaaagtaggtataaacttcttataggctgttat tatacaactatatgacccatacatatttacaaattaagtgcagccaaaattgcaaaatcaataccattcaaattaatac cttaaatgtggtgaggcagctgttgttcaactgaaaccaaattataagttgcatggcagtaaatgctatcatgctgatc attttgagtttggccagtctatattatcatgtgctaatgattgaattctccacccatttttctacttgtatgaccttaa tttgatggcacctgttccatcctcatgagtttgctacaattatactggtgccaacacaatcataaacacaaatataaac ttgggctttgaaatcttgtgccagaacttggctttaaagtaagcatttaaaaatccatatgtgtttattagactttgt ttagatgactgttgaaatgaaaacaaagtgtttaaaatcctcttagagaacttaaatataatccctcagcaatatgtat acagatetteettigagaaaaactgattgtgtteageeteteatgttacaaatggggaacetgaattetgaggteteta aaaaagagagnnnnnnacacttagaatgagcttccatgtgtgaggcactaactgattaggcattattaactagatttat tccttttaaggccccgcgatgtactgttatttccacatgttgtagctggggaacgtgctactcagagaggttaagtaac ttgtctgaggtccacaccactaacaaggagcacaggtagggttcaaatccagataatctgactttggagctggcactct aactcaatgtgcctaatcgcttttcagtggtgtcattattttgcctattctccatctgagaatattgaagtttctgact tattcctttgctacagtgtgatccagggctcctgcccttcttatcctggtagagggggcccacttgctgggaaattgtc tccgccatggtttatccatgttgtgtgtccattagtgagtagtgggaagaatcatatcatgttggcaatgaaagggggg ctatggctctggggtagtctagtctgaactcttatttt

**Figure 12A-(3)** 



SEQ ID NO: 15
Genomic contig containing ABC1 exon 2:

ctttttttttttttttttttttttttgaggtgaagtctcactctgttgcccaggctggagtgcaatggagcgatc ttggctcaccccaacctctgtctcctgggttcaaacagttctcctgcctcagcctcccgagtagctgggattacaggctc ccgccaccatgcccagctatttttttgtattttcagtagagatggggtttcacccttttgaccaggctggtcttgaactc ctgacctcatgatcaacccacctcagcctcccaaagtgctgggattacaggtgtgagccaccacgcccggcctcataagt attttctaaatttattacagtcatgccatttaaaaggaaagttgtattcctgtctttgttaatatttataagtgatttt attcagctacaagcttggaatggcatataattttgtattctgcttttttcacttaatattacatggctaatgatttctgt gtttcataaacattattctgatgatggcatgatatattgttgagtacatgtaccataattgaatcatttccctattgcta cttaagttcagtttcctaggatgaatttccaggaatagtaattgggcaaatgggataaacatgactcttgaatacgtatt gttaacattgctttcccaaagggctcaactgatttatatttccgtgttcattatcttttaaaccagctcatttactcacc ggtccctggtgtaccaagtgctgatacagacacaaagtacctggggaaattgagatgagggagtcctggctcagctggga gagtatgttgcctctttgggattatttacagaaatattagcaagaccagccccatctttggtcttgagtactccactgtc agcatgctttcttccagagagggatccatttgcctttatttttcattctgttgtgccgtctatgcaaactattcttgata gttttatggtaacagtgtttttttgttccatgagataaatttatacatgctcattgtggaaaatttagaaaagacaggaa ggagtgcagtggcgtgatctcagctcacagcaacctccgcttcccaggtttaagtgattctcctgcctcagcctcccaag tagctgggagtacaggcatgcaccaccaccgcccggctaattttgtatttttagtagagatggggtttcaccatgttggcc aggetggteteaaacteetgaceteaggtgateegeetgeettggeetegeaaagttetgggattataggeaggageeae tgcgccagccacacctacgttcttatcatcctagtacatccactgtcattatcttgctgtatttccttctgcccagtctc actotgatcatgcagtggcgtgatcatgcagtgatctcggctcactgcaacctaggccttctgggttcgagtgattctcc tgccttagcctcctgggttcaagtgattctcttgccttggcctcccaagtagctgggattacaggcatacacccccatgc ccatctaatttttgtatttttagtagacacagcgtttcactaaaattttgtattttagtagagatggggtttcaccatg ctgcatccatcgccaaaaagattttttaaaagagtttaatgtagaaccatatcaaaggtctttggaaataaaaaacagtt cagaaaggttcaattatgatctattcatagagtggaatatcaagtagacattacaggacatgttttaagattatatttta tgtcatgggaaatgctctcccagtatgatgttaaatgaaaaaacagaatacaaaagtatatatgctgcatagtctcaata ttgtagagaaaaaatattatttatgtatgcatgaaaaaagacaaaagatgttaacagagatccattgttacttcagttta ctagggattgtctctgggaggtaggattaaggtgatttatatttacctttttaaacttttctgtattttttattttcaa attttccataaaaatataaggacttgaagatcaagaaaaaatttctgctttggctcagtgcagtcgtcacgcctgtaatc ccagcagtttgggagccctaggggagaggatcacttgaacccaagagtttgacgttccagtgagctatgatctccggatc agtetetetetgttgccccagetggagtacagtggcacaateteageteaeegcaaeetetgceteetgggttcaagega gagacagggtttcaccatgttggccaggctggtctcgaattcctgacctcagctgatccaccggccttggcctcccaaag tgctgggattacaggcatgagccactgtgcccagcccaatcttttgcttttttaaaaaaagaagacaaaaagggatttt tettttgggetetttggtgtttatettgattacaacgttggaatatagaaatgaaaggaatgggagaggtgatagaette aggcagtgtaactagttgtctgaacactactggctcaattatattgtgtctagtgatttccatcttgtccgtctgctaat ttatcgcctggtaactcactgaggcagggttttcctttggagaaacctcattgttttaaccagtgtatcatgcttgttta gaagttcaatgatctttttaactcatcggagaagatgatgaccagacctggacagatggggaaggactttgcactctctc tttacagtcctgagtgcacacaggtcaatatggaactatgtgtgaattttcattgtctttgagagccctcttctctgccc  ${\tt catagggagcagctttgtgtgcaattagaggagcaagggttgtgtgttatttagcacagcaggttggcctggtcctctcct}$ atgtgctgaggaagccagcaacagaacagatgatttcaggagctccaggaaaatgctacaggaggagtgtgcctgggtt

Figure 12B - (1)





actggagtagcacaggagggggcttctagctcaggctgagattttagtaaaggaaattatgccacgatgaatcctgaag aatgaatagaagtgaaccagataaagcacgataggaagcatcttcccttacctaagggaagacacagaggtatatggaat ggtatgttaaaaggttgggactccaaacagttctgttaaagcttagagagtggtgggagagactggagaagttgattaat tagtaaatgaagttgtctgtggatttcccagatcccagtggcattggatatccatattatttttaaatttacagtgttct atcttatttcccactcagTGTCAGCTGCTGGAAGTGGCCTGGCCTCTATTTATCTTCCTGATCCTGATCTCTGTTCG GCTGAGCTACCCACCCTATGAACAACATGAATgtaagtaactgtggatgttgcctgagactcaccaatggcagggaaaat ccaggcaattaacgtgggctaaattggacttttccaaagatgctgtctttgggaaacatcaccactgctttggatcagaa aacctaggcttctaatttgttgataaggcatgaactcaggagactgttttcagtcctagtgaatggtgataattgtaatt ataacagtagacaacatctcttttacacattttaaatcatgaaaatagaataaccttactgataattttagaaagtggtg attaaaagcacatttaagataatgccttaacacctagtcttttccatatgcatgatgtcttaatcacacattgcaaatca tggaacacagaatttt

Figure 12B - (2)







SEQ ID NO 16 Genomic contig containing ABC1 exon 3:

caacatttacgtagctgggaaatgtagctgggacttcagtttcactgccctagtgatttttccctaccactaagcagctca gtccatacccctacgagacccacaagcttatgagatactgttcttccaggaaagcagtggggccagggccaccttttaat tgtgtttcttggcctggtcccatctttctcacaatatatagcaacagttatttacttgctgattttctaatgcacatcac aaaccagcctggccaacacggtggaacctcgtctctactaaaaatacaaaaattagccaggcgtggtggcgcacacctgt aatcccagctactggggaggctgaggcaggagaattgcttcaacctgcgaggctgaggttgcagtgagccgagattgcgc acattttagattttatttaagcattatgccaagcaccactgaagtataagtttcaagggcaaactcagttttttcatcta ctagacgaatgattttctggaatgattacaagcaggcaagatggtgtagtggaaatagcaaatgtcttcggcatcagaca agttggggtttgtttgtatcctgcctctgcccttcaccgaggttgtgatcttgggcagattgttgagttttaacctagat tcctctgactccagatcataaattttcagaaaagttctgaaattcttgtatatactgatggtaaatgagacttttcctta  ${\tt catctatgcacttctttgtttgttttgagatggtcttgctctgttgcccagactggagtgcagtagtgcaatctcc}$ gctcactacaatgtctgcctcccaggttccagtgagcctcctgcctcagcctcccaaatagctgagactacaggcatgtg  ${\tt ccaccacgtccggctaatttttgtatttttagtagagacagggttttgccatgttgaccacactggtctcgaactcctgg}$ cctcaggtgattcgcccgcctcagcctcccaaagtgctgggattacaggcatgagccaccatgcccggccatatccatgc acttcttgcaaccttaccttcttttctcatcaccctccagggacctagttggaagagcagagttaaaagttaaggtgaaa cttggagaggtgtcttgtccctaggaacaaaggactggtttgaaattctctgtaaatcttccccagttcaaaccagagtt  ${\tt atcaaggtcttaaaaacttccctgggtcctgagagcccattatattatttacttgtcttcctgtacacccactgcctagt}$ gcaaggggccttgtttggttttccttgaactattaacaggaagatagggagattaactgtgtaaatgttcaataggccag  ${\tt agtccctgcagagggtggccacagtgatcagatcttatcacatccttgctttgggtgttgcctctctggttggagtattgg}$ atagaaaagaaagaaagaccctatattgaaatgcaaagtgcagcaagtcctgactttggattaacttctcagcccatttg ctgggcaacagcagagtaagtgctggggtagattcactcccacagtgcctggaaaatcctcataggctcatttgttgagt ctttgtcctacaccaggcactctgcaaaaacgctttgcctgcaaggtctcatgcgatgctcaccaccagctctgtgaagtt aattgtacttttatcaccattttacagatgagaaaactgagggtatggggtcaatgacttggctaaagtcactgcttagc aagctgcagggactggatgtgaattccaattggtttgactccaaagcctgtgaagctacttgttcttcaccacctagagc tgtggttcttgataactgtgaactcttttggggtcacaaatagccctgagaatatgatagaagcaggagctctggccttt  $\verb|ctgtccatacctgaacaggtccttgggttaagagcccttcgtccagggcctattaatcttgatcctcataagcagcatcc|$ atgtattacggccgcaaaccaaactgtgccagaccgaatcctaggaccaagcccaaatatgtcccatcatccttttggta agaagctcattgtaagaaagaagaggagagcaagaggatgacctagtgcatggggcctcattgttttaattagtgacaa aacaacaataataacaacaaaacccccgaagcttcacagatgacatcagaccccaagcctgtgtgtttttcaggtgccct tgaggagctttgtagctggcagagggggtgaaactgacaaatgtttggcagatggaggaggagtaccagaggggtttgaga ${\tt tgagctaaattccaatctaaccgcagtgttgaggaagaggcttggattgggaccatggagatgggggttctactcccagt}$  ${\tt tcgctcttgtcgcccaggctggagtgaaatggcgcgatcttggctcactgcaacctccccctcctgagttcaagcgattc}$  ${\tt tcctgcctcagcctccagagtacctgggattacaggcgcctgccaccaagcccatcgaatttttgtatgcttagtagaga}$ 





 ${\tt cagggtttcgccatgttggccagggtggtcttgaactcctgacctcaggtgatccgcccaccttggcctcccaaagtgct}$ gggattacaggcgcgagccactgtgcccagcccacttcatcttaccgtagttacctccttagagtatgaaaaaataggctgettaggacccctctcatcacttctccaacgctggtatcatgaaccccattctacagatgatgtccactagattaagaat -ggcatgtgaggccaagtttccacctgagagtcagttttattcagaagagacaggtctctggggatgtggggaatggggacgg acagacttggcatgaagcattgtataaatggagcctcaaaatcgcttcagggaattaatgtttctccctgtgtttttcta ctcctcgatttcaacagGCCATTTTCCAAATAAAGCCATGCCCTCTGCAGGAACACTTCCTTGGGTTCAGGGGATTATCT GTAATGCCAACAACCCCTGTTTCCGTTACCCGACTCCTGGGGAGGCTCCCGGAGTTGTTGGAAACTTTAACAAATCCATg tggctggatttaagtgaagttgtttttgtaaatgcttgtgtgatagagtctgcagaatgagggaagggagaattttggag aatttggggtatttggggtatccatcacctcgagtatttatcatttctgtatgttgtgaacatttcaagtcctgtctgct  ${\tt gagggtaggggctggcacaaagatgcatgctggaagggtccttgcccataagaagcttacagccaaggctaggggagttc}$ tgtcttctctgcatcaggtcacctctctcacctctgtcactgccccatcagactacaatgtctgcaggtctttctcccct gagtgtgagctccctgagcaaagcaggatgctgccccttccctttgtattccttgctccttgcttcagtgcctgtacata agtatgggcataataagtgtcccccaaatgagacattgaggattcttcaaatgcacaggaccgtgatgtgagttaggacg gagtaaggacgatgggatgtggctcatgacaatcctgaggaagctgcagctgcggcacgcagggccacactgtcatgttc atggaccctagactggctttgtagcctccatgggccccttccatacac

Figure 12C - (2)





### SEQ ID NO 17 Genomic conting containing ABC1 exon 4:

tcatgactgccattggtataaagatgaatataatccagaccagattcatgattattcatacatttttagtgtattaactt $\verb|ttaattctgcttttaaaataaattaaaacattctaatatgcccttaagagtatcccagcccaggccactgagcctactgt|$ tgaatggagctgggtgtggggagccatgggagttgggttagggccagcctgtggaggacctgggagccaggctgagttcta tgcacttggcagtcacttctgtaaagcagcagaggcagttggcctagctaaagcctttcgccttttcttgcaccctttacagTGTGGCTCGCCTGTTCTCAGATGCTCGGAGGCTTCTTTTATACAGCCAGAAAGACACCAGCATGAAGGACATGCGCAA AGTTCTGAGAACATTACAGCAGATCAAGAAATCCAGCTCAAgtaagtaaaaaccttctctgcatccgtttataattggaa attgacctgcaccagggaaagagtagcccaggtgtctggggcttgttcccattagatcttccccaaggggtttttctc gtactaatcttctctgggaagacagaagaaagtccccagggaagaatactacagacttggccttagggacagctagggg tgcagattgctgccaactgcatttttctgaagttggccatatggttgcagtgaatggatttatagacagagtatttctg tcattttcccctaatcatttcaattagtctgatgggcatttgaacttgttgtctttaaaaagtgaaatctttacctctga gccagtaatggcatgt

Figure 12D







SEQ ID NO 18
Genomic contig containing ABC1 exon 5:

agctctccaggtgattctgatgcatacttaagtttgagaaccattgcttgttttgcattaaacaggagattagtctctgc agcttgtgggaataaagctttaaatctctccaattttagctctgtgaaaaggcagtggggagacaggaatgaacggacta gtgccacaaagctcaggtggggtgggtgagatcatttagaagagaaagaccgggcatggtggctcacgcctgtactgtca tgtactaaagataaaaaaaaaaatttgccagtcatggtgatgcatacctgtaatcccagctactcgggaggctgaggc aggagaatctcttgaacccgggaggcgggggttgcagtgagctgagattccaccattgcactccaacctaggtgacaggg gtgtgtgtaacagcaccatcacactgtttgagttgaggagcacatgctgagtgtggctcaacatgttaccagaaagcaat  ${\tt acactattctcaatagACTTGAAGCTTCAAGATTTCCTGGTGGACAATGAAACCTTCTCTGGGTTCCTGTATCACAACC}$ TCTCTCTCCCAAAGTCTACTGTGGACAAGATGCTGAGGGCTGATGTCATTCTCCACAAGgtaagctgatgcctccagctt tggaatatgcaacctggcgtcatgggccagctggttaaaaataaaattgatttctggcttatcacttggcatttgtgatga tttcctcctacaagggatacattttaagttgagttaaacttaaaaaatattcacagttctgaggcaataaccgtggttaa gggttattgatctggaggagctctgtctaaaaaattgaggacaggagactttagacaagggtgtatttggagacttttaa ccctgcagcttgtgggaataaggctttaaatctctccaattttagctctgtgagatggcactggggaaacagaaatgaac ggactagtgtcacaaagctcaggtgggatggacgagatcacttcaaaggtctgtaatcccacgtctataatcccagcact ttgggaggccaaggcgggaaaatcacttgaggtcaggagttcgagaccatcctggccaacaatgcaaagcctgtctctac taaaaatatgaaaattagctcagcgtggtggcatgctcctgtagtcccagctactcgtgaggctgagacaggagaatcgt ttgaacctgggaggcggaggttgcagtgagccaatatcacgccattgcactccagcctggctgacagagtgagactccat ctcaaaaaaaaaaaaaaaaaaaaaattttataaaatcaggaaataatattagtgtttatgttgaattttaactttagaat catagaaaacttcctctggcatcattattagacagctcttgtgcagtgggtagcaccagaccagcttgcatggttattg atttttcagagacactttttgagcttattctctggcagaaaggggaactgcttcctcccctatctcgtgtctgcatacta gcttgtctttacaagaagcagaagtagtggaaatgtttattcttgaaaataagctttttgcttcacatgatctagaattt ttaaaattagaaaaatgtgcttactgcg

### Figure 12E







### SEQ ID NO 19 Genomic contig containing ABC1 exon 6:

#### Figure 12F

SEQ ID NO 10

Genomic contig containing ABC1 exon 8:

ccgtttggcaaatgctcagtaaaagaaaagggttagaaggggagaaaggcattttatcccaagccttcaggaatcaggat gaggatgtcttcaccttgtggtggggagtaattatacaattagagacagcacattggagtgtggctgatatgctgtgtga tgatagctctagctctctgcctagcagaggaaggacatttcaatagaagaaaaagtttaagaccttgccgagaaacagag aaaggatgtttgtctttttaagaagttgaaaaccctgtttgcagacaaaagccctccagttttggcagtaaactttcatg caagggaagaaaaaggcaggggatgacattgttgacaattgtgaggaattaccatgtgccaggcactgtgcgaggggctt tgtacatatcctctagtttttagtgcttataaaaactctgtgatatgtgcacagcattttaaactttgctgcatagtcgag aaaatggaaggatggggaatttgagtcatttgcccagggttctatagctaccccaggttcccatgactggagaattgggg cacagggtggcgggggagagtgagtgacaagaatcctaacaatcttatttccattgagtccttataaaagaagtggatta tttgctatgctgtcttgaacatctgtcatcttgtaggcctaacggtaaacacaaaaacactttacctcctatagctttca attaagatctctcagtttgtgtttgtaatagttttccaggcaagttctccctaggttcggcttctagtgtgttaaccttt agttataaagtgaacccaaagagagaaagtagaaacaaaacacctcacctgtttttgctcatgaattactctctatggaa ggaacaatcatgaacacctctgcgtatcacagaggcctatctgagtctgacgtttaagggagaccgcgtaggtccctttg atagaacctt tagg cagg tttcttagaaatg caeatt gagg at tatgcttg gatatt gtgat gat cagaat gatactca ${\tt atcccttctgcatttggaattctctttgaaagaaaacatcccaggcagctatttctcagagatagtgagtcccagccact}$ tctagacattttcttgtgtagtctacattataatttcacagcagtctctgatatgacaaatgtcaaaatagcccaaccttctctaaacttcagagatgtctgatatgatattgaataaaacaatgctcatagaaacatcaagaaaggtggattttccctg gatacttttttcctgcttgacaaataacagtgaagaaactgatctcacgtctttttctctttggaagcctgaacactcag tgctttctgccctaatttatcttttccctgttctaatgaattattgtcctatatctgctgtgcagttaggtgacatataa cagcaattaaatatatgaattggtacatataaagatttgactaaaactcgatgtaaaaataagtgttctacattcaattt  ${\tt ccagtgttagaaacagtgctgacttgaacagagtgacagaattccatctttccctatttttgacagctttaaactttata}$  $\verb|tttcttccttgtgagccgtcattaacttgtttctcaaagccattcccgtattacccatcttgcagacgcagacag|$ atttgggaatttgcggtcagagttgtattggacacatcccccagcccacatgagatccttttaatctattgcatattaa  $\verb|ctagttttaagtacaatattcctacttcatttaaaaccattaatcaaagaatgagtttgaaaaatgaacaaaatgcaaact|\\$  $\verb|tttaattcacttg| ttatttccaatagagatttcaggtttacatttgaattcagaaacaaagttttcttattaca| \\$  ${\tt gagaacactaaactctacatctcccttcccgagcaaggagctggccgaagccacaaaaaacattgctgcatagtcttggga}$  $\verb|ctggcaagaggtccttttgagttgaatatcacatgggatgtaatatcaattttcaaagtgatgtaaacaataat|\\$  $\tt gttttgatttccttattttagaaatgaagaaacctaaaactcatagatgtctcagagctaattggttagtggctaacagc$ tggatatctagtttagaaccttctccattttttctttttgcccctaggtaatcatacatttgtaaagaggagaattatct $\verb|ctgccactgccatgcactgcttttgtctgaccagcaatttctccatattgcttcttcagtagcaatgccaatcattta||$  $\verb|ccaacacacatgcttgctaactaacaggaataacgtggtacccctaattcagccctttcccttgaaagcatctggcttct|$ gaggttcaactatgggaatatggtctcttaatgaacattaagttgagtttgccttttaggtccacatgttgacaaatgta actccacctttctgactcccagccttgtctcaaattaggcttggaagcgaggaactgtctggtgtcccccagcataggaa gctgagccagggggcagtgctcacaaacaatacagactttaacgtgtaggatattggaaaataattattgtggggaaat  ${\tt tgtctcagacttggtccacccttatttttagctgcttctctaatccgtttttcttttttggtgcttgtatctaacctac}$ ccattttttggtgcttgcatcattttttcaaatatcaaaaacgaactttatgttttctaacaatgaaagtattgcatgtt cattgtggaaaatgctgaagacttggaaaatacaaaaatgctgagatcaaacactattgatacgttagtgtatttcttcc  ${\tt gaggagaagccttctttcagcttgccatttgttaccctggttatgaaggctggtaaccttttttactaggtagaagct}$ 

Figure 12G - (1)



ggaccaaqtggggttcttccagggggagaatgagaaagagaaactgttttgcaagtccgtagctatttctctagggccct gttagctgacattgacatgccttgcattgctctgcagatcccctcgcagccctctgtcccttgttcatttctggccttag agaaagcaaagcagggtctgtaacaggggaggctgcctctaaactcagggtttggttacagctgttttcacttacatcac gaccatctgcctctttcaatagaacacctccagatccctttgatcaaaagttactcattgtctgacttgctatttctgtg agataaatgggagaagatcaataaatgcacttgtttgtccagtcagcgtgtggaaagttgataattttgaccaaagcaca accctgaaaggaaaaaggaagtgaatgtcttctgagaagctgcctaggttcagacagtgtcacccatttccctgtatgctccacatgacaaacctgagtgggtctcatcatgtccatttttgcagatggcaccaaggctcagaaaggttaggcaac ttttccagtcacccaatgagttaattgacaaaactgggattcaaacccagaactgttggattccaaagcctgtgttgttg ggaggacagggaggcagcatctcagatgtccacccagcaccgaccagctgcctggcattgctaggtgtttgaggactcagc acaggagggatatatgcagtgaagaaaaagcagggtaaggggcatagagcatgagaaggtgctttttttaaagggggktga caggaagaatggcagatacaaagacattgatgctagagcatgcctaaggaatgtgtttaaggaccagggaaagtgagcaa gtgagatgagaatccagcggagggcttgagggaggggacatgatgtgatctagagtttagactgtttacactctggttgt tgggttgagaagagactgggatggggaaagggagacaaaggacattgtgctggattgagaaagcagtaagtcagtttctcaggaagcacttcccagataaagtttggagtgtgagctgaggtgtaggagaaagagtaagagtttacccctgaaacggg tgctgggaagagtcaatagtttggaataactcaataatttatggtgcttctttagaaagatttgctggctttatgtggga $\verb|ctgttatttaaaaatctctagggctgttccaataagcaacaaaaggcaaaatggcctggttctctgtccctttctgtct|\\$ gtatgcctcgtacaggttatgaaaagaaaagttgggaaaagctgtccacctcacctaattgtgttcttgtggagtgtgc tagatgccccctctctggagaaaaaaatccttgtggcctctgacccacctctggagagcctagttcccttctggaggca gaaggcaaagcttaggacctagagagtgctggaccacgccactcacaggaaccagcaggctgtgaggttgaaagctaggc atatggagctttccaggctgggtgcagggcctcgtggcccttcccctcccctctgtgctctatagctcagtcttcccagg cggtgtgaacacgcagtgacatttccaggaatacagggatttattaatgatttcttgtgaaatgtttggaaatacaaagt ${\tt actctataaatatttcataatagcattggggctgagaactccacaaagtgccggaatacatttgcatgtaagacagaacg}$  $\verb|ctgcctgggtcattgatgcctgttgagtggcagtcacagacactgcctagggtttctgactcacgctgttgggactgttc|\\$ tatgcagggcaccctcttgtgtggcataggatttgtgcctcaccacacactgttgtagctttgctgtcttgatgatgagtagagggcagtgtccaggccatggtataagcatctactgcccccagggttaccaaaaccaagccaagttgtgtctcagcg agctccgtgaagcatggagaagttgagtactcagagacatgacgtgacttttcaaaggctgtaagctgacgagggacata ggctggattgcagtggtgcttggctcactgcaacctctgcctcccgggttcaagcaattctcctgcctcagcctccccag tagctgggattacaggcacctgccaccatgcctggccaacatttttgtattttttagtagagatggggtttcaccatgttggccaggctggtcttgaactcctgacctcaggtgatccacccgcctcgacctcccaaagtactgggattacaggtgtga gccactgcacccggcccagactcgagtttttcatcttaatgctttttcattgcctgacactttactgagaccaagatagg gaacttcacatacagtaccttttctcccaaggcggaagagggctgttcaatttctacactagagttcggggagttttaga aatgagtcagttatcgaggatgagagcagttcctgataggctcaaccacaatgagatgtagctgttcagagaaagcattc ttttatctataaactggaagataatcccggtgaaacgaagcccagccccaggggcttcactaactccaggctgtgcttct caaactttagtgagcataggaatcacctgggcatcttgtgaagctgtagatttgaattctgcaggtcggcagaggggtct

Figure 12G - (2)



 ${\tt cagaatccgcatttccaacaatgtctccagtaatgctgatgctgctcgtccctggaccacagattgggtagccaggttct}$ ggcaagctcatcccaaggctttgagatgacatcagacaaaatatgttctgggacatggcttttgagaggtcaagaaaata agatgtttctttctctctcatccccaacccttgcactgcccttttctccccttcccctaccctcctttctgtccccatcc CtgacgccagCTGTTCAGCATGAGAAGCTGGAGTGACATGCGACAGGAGGTGATGTTTCTGACCAATGTGAACAGCTCCA  ${\tt CTCAACTGGTATGAGGACAACAACTACAAAGCCCTCTTTGGAGGCAATGGCACTGAGGAAGATGCTGAAAACCTTCTATGA}$ gtcatctcctcctctgtagcagcgttagatgtctacatgcccatttgcccaccagactgagctcttcctagaggagaga ggcttctcttgaatagctacctgtccccagttctctgaatgcagcctggcacatctcaggtgcacagtagtgtttatcaa tggaatgaatgattgacagccaaccttctggttttctgggggatgtggaagggtggcttccagggtgatcaagaatgaga gagagtagatccgaagtgttcacactacacaaaaaaggcaactatgaggtgatggatttattaacagcttgattgtggtg atccttttacaaagtatacatatattaaaacatcacattgtataccttaaatatatacaatttttatttgtcagttgtaa ctcaaaaaagctagaaaagcatttttaaaaaaggatgatgtactggtcttaatattaccattgagataagctttataataa cataaaaagaaataacagtaatgataatagcaacaacaacaacaacaagaactaacatttaagtagaatttcttgtgca ctgtgcattctgtttaagttatctcattttaccctcatgataacctgcagggaagattctttaaccccacatttcatagg ctcagagaggttaagtgccttggttagagccacatcagagttaatccacaagagccaggattcaagcccaaatctgcctg attcttagctgcaaggcagtgttaaagaaccctgtgtctccatatccactccccacacttaagcacttttgtgggcccgt gtgccgtatgcctcgtggcagcagggatccaatgtcacagttttaggcagtggcatccttttccttgaaaacttgatgca aagaaccttttcttctctggagtaaagcactccagacattcgcaagttgctttacaagccttaaaaggatggtattgtag gcaactttaattaaatcccatctcctctcccccagcttgcaagttgacccaaggaagccttcatttccatgacagac ttaattgtgagggcatcctca

Figure 12G - (3)

SEQ ID NO 41

Genomic contig containing ABC1 exon 9 through 22:

actgtgttagcaaggatggtctcgatctcctgacctcgtgatccgcctgtatcggcctcccaaagtgctgggattacagg tg cagtg a cacaatct cgg ctcactg caacctct g cctcctgg gttcaag caattctcctgcctcag cctcatg cgtcac ${\tt cacgcccagctaattttgtatttttagtagagacagggtttctccatgttggtcaggctggtctcgaactcccaacctca}$ ggtggttcgcccgccttggcctcccaaagtgctgggattgcaggcatgagccactgcgcccagccccaaattttggtttt tgcttgaaaactgaggtctgaattcagccttctggttgcccctcaagagtcagtttaaatgttggtcatgttagttgtca gtgaaaacaatggtgaggctggcatgagagtgtgaatctggatgggagggcttgtgcttcatgaaaacatttttccagat cagc t cag t cg t gag t tate cg t cat t gac g t tate a tage t ct gat tate tate cag cat cat t ct tate g a tate tcagtttaatctgagataatcttctccacatctctccacatagatgttatgaattttacttttacagaggagccaactgag  ${\tt gctcagataagttacttattatatgactagtagtggtagagctggggtttcaactaagaactctctggctccaaagccct}$  ${\tt GATGAAGAATTTGGAGTCTAGTCCTCTTTCCCGCATTATCTGGAAAGCTCTGAAGCCGCTGCTCGTTGGGAAGATCCTGT}$ ATACACCTGACACTCCAGCCACAAGGCAGGTCATGGCTGAGgtaagctgccccagcccaagactccctccccagaatct ccccagaactgggggcaaaaaactcaaggtagcttcagaggtgtgcgctaagtatactcacggctcttctggaattccca gagtgaaaacctcaagtctgatgcagaccagagctgggccagctccccagtcgtgggtatagaatcatagttacaagcag  ${\tt gcatttcttggggatgggaggactgctactgtgatggggtatcttttcagggaggagccaaacgctcattg}$  ${\tt tctgtgcttctcctctttttctgcggtccctggctccccacctgactccagGTGAACAAGACCTTCCAGGAACTGGCTG}$ TGTTCCATGATCTGGAAGGCATGTGGGAGGAACTCAGCCCCAAGATCTGGACCTTCATGGAGAACAGCCAAGAAATGGAC CTTGTCCGGgtgagtgtccctcccattattaccatgtgcctgcttgatactggagaggtgagtttctggtcactttccca ggtgtgagtgaggtgagaattctttcagtttatctagctgggggaatgtagtgagcatagctaaagtcacagggcaccac ctctccagaagtacaggccatggtgcagagataacgctgtgcatatcagcatccatgccactcacggtcaaatagcagtt  ${\tt ttctgcaaaacttagtgagggctggtgtttggaagtggagttgagtaattgcagtaccctattttcctttttgctgcagc}$  $\verb"ctctcagccagcatctccctgtgtcttggtaggttttggaaagaagtgtgggagcaaaagcatgatgttacatg"$ tagactggcctgagatactcattctcagggcactgtgtgaatgatgatgatgctgctgttactgtgtggaggggaaatgcactt ${\tt agtgcttcagagccacttgaaagggataagtgctctagagacaattgggttcaaatgtggagcaggctgagcaagaacag}$  ${\tt aatgtctcctttgcctgagcctgagtgctgttaatcacatcttcctgccttgggctgagttagagaatcattagactatt}$ tcctgtttccatggtgagggaggcctcttccttttgtctctgctccccttaagaagcaggtgaggattttgccaggtttcggactattccctgatccgctgggaggcaggttactgaggaagtccctttaaaaaacaaaggagtttatactgagaaaagca taaacagtgatttgtatggattcacactgactaatatagctcatgccattaaagtggggtctcttctctaaaggagggttatatgatctagccccgtagacctaagtgtggtttcagacctgttcttcctggtcctctccttggaatccatatttctact agttggactttttctgtttgtctggctctcagaggattataggaggccctgtgaagtgactcagtgaattttgatttgtg ggcaagtagatggttccctagtctgaaattgactttgccttaggtgcttcaattcttcataagctcccagttcttaaagg acaagatccttgtaaacatggcaatggcattcattaggaatctagctgggaaaatccagtgtgtatgcttggaaatgagg gatctggggctggagagaaaggcatggcatgccttggagggacttgtgtgtcaagctgaggacctttactttaagctct aggggaccaggcaaggggagatgtagatacgttactctgatggggtggatgaattgaagaaggatgaggcaagaatgaag gcagagaccagggaggaggctctccaagtggccaaggcataaagcaagaaatgaggcctggtgactgcttagtggcagag  ${\tt cacccaggctgaaatgcagtggcatgatcttggctcaccacagcctccgcctcctgggttcaagcaattctcctgtctca}$  ${\tt gcctccagagtagctgggattacaggcacatatcactgtgcccggctaatttttgtattttcagtggagatgggatttca}$  ${\tt ccatgttggtcgggctggaatgaactcctgacctcaagtgatccacctgcctcagcctcccaaagtgttgggattacagg}$  ${\tt tgtagcctggcatctcctacacgaggtgatggcttgaggcttctgcttctgcttggggtagctctgatcttctgctttctc}$ 

Figure 12H - (1)

53





tggcactgtctacccatgttgcctcaccccacaggtcccagggcacctctctcgggcaagtcttggaaccctctgacact tcttaggtctcctgccctcacgagcaccccagagaggccacgtgctcagtgatctcagtgggcgcatctttctagtctt gctattctttttggccatgttgttcagaaaccatactgggcagggccgacttcaccctaaaggctgcgtctcttcactct gcttttgtttgttccaaataaagtggcttcagaattgctaaccctagcctctgtgaacttgtgaggtacaattttgtgtc tgttatgttaacaaaaatacataccttcctggtgatggtataaattgctattctctattggaaagcaatttggaat ataattttaaagaagtcaccatatgagagaaaatgttattgctatattgttattgtgagaaattggaaaatagactaaatg ggcgcaaggggggaaaagcttataatgttagtgaaactaagactgattttttataaagcagcagttttcagacccttgg agactccaattcggtagaaccagagcttcatcttctctgtcgaagctgtgacaggagttgcaaatgcctctcctttttgc tgagtttgcagctgctgtttttccggcagcacatctgtgcaggcctctgcctcggcccctctggatctgctgattgagca gcggattgatctgtccttctctttcgtgttgacccatgtgaggaaccaactggcaagggaacaagaaatggaaataggcc tcctttgcatcatgacctgtacatcctgcaattggaaaagattgtactttagttggtttaaccagcagcattatttttct aaactaagcagtaagaaggaattaggttttatgtgggatcaacagactgggtctcaaaagaggaaggtgatagaacacag tggggagggggaggtgcactagaaacagagggcctatgctttcattctggctttgctacttaatagctgtgtgacccaat cttagagacttaacctctctgaacttccattttctcatgtataaaatgggaaatattaaaggatactcactgggctggtg gcttgtgcctgtaatcccagcacttggggaggttgaggtgggaggatcacttgagcccaggtgttcaagaccagcccagg  ${\tt caacatggcaagactctgtctctatgaaaaaattaaaaattagccaggtgtggtgtgtgcacctgtagtcttagctact}$ tggtaggctgagatgggaggatcacttgggcttgggaggtcaaggctgcggtgagctgtgattccatcactgcactccag gttgtgtaaggtgaagcatatacactattcaacatagtaactatataaaggaagtattgttgttgttactgtagttaata ccattaagtgagatgtttcgtatagtggaaagcacatggactctgaattcagactggtctgactttgagtctcagctcca gggacactgtcatttacctcagttttctgtgaggataaaacaacgacagtgtatatgcaagtattttgtaaattttgtag tgctcctcaagatttagttggtgtttactacttgtactttctcactggaatggcagATGCTGTTGGACAGCAGGGACAAT GACCACTTTTGGGAACAGCAGTTGGATGGCTTAGATTGGACAGCCCAAGACATCGTGGCGTTTTTGGCCAAGCCCCAGA ggttcaggcaggaggcaagtttagaaataatgtatagtctcatttacaaaactatccctcaagcctaacacaggatttga tattctatataggctcaagagaatatttctacccattttcttctaggttttcctatctcagtgactaatggtagcaaagc ${\tt attcccttaaaaaaggcattatttgtgaaacttayctaaaatcgaattcgggtccaattaaatttttgaaattttatatta}$ aaacagaaaagtaagataagatcattgttttaacctcttttcctccacaaaatcaataacatatccctaaattact cttagaatttctcttaaattgcagtgaaaaaccaaaatccttcattcttggttgaaggttggaaaactacgttagagagg attagagagagaggatgagcaatcgtgtagtcagcccttgcctcctagtgtaggatttgtctcagccactgcttgttgtc  $\verb|ctggctgccaacgttctcatgaaggctgttcttctatcagtGTGTCAACCTGAACAAGCTAGAACCCATAGCAACAGAAG|$ TCTGGCTCATCAACAAGTCCATGGAGCTGCTGGATGAGAGGAAGTTCTGGGCTGGTATTGTGTTCACTGGAATTACTCCM RGCAGCATTGAGCTGCCCCATCATGTCAAGTACAAGATCCGAATGGACATTGACAATGTGGAGAGGACAAATAAAATCAA tttattttaactaaaaatttggtagaaatttcaacaacaacaacaacaactcaacttggtgtcatgattttggtgaaattg gtacatgacttgctggaaggtttttcataggtcataaaataacagtatcttttgatttagcatttctactcaagggaatt aattccaggaattttggtggcaggcacctgtaatcccagctactcgggaggctgaggcaggagaattgcttgaacccagg aggcagaggttgcagtgagctaagatcgcatcattgcactcccgcctgggcaataagagtgaaactccatctcaaaaaa

Figure 12H - (2)

O E JC TO STATE OF THE PARTY OF

TTGAGGACATGCGGTACGTCTGGGGGGGCCTTCGCCTACTTGCAGGATGTGGTGGAGCAGCAATCATCACGGTGCTGACG GGCACCGAGAAGAAAACTGGTGTCTATATGCAACAGATGCCCTATCCCTGTTACGTTGATGACATgtaagttacctgcaa cgcccaggctggagtgcagtggctcgatctcggctcactgcaacctttgcctcccgggttcaagctattctcctgcctca gcctccacagtagctgggactacaggctcatgctgccacgcccggctgactttttgtattttagtagagacgaggtttca ccatgttacccaggctagacttcaactcctgagctcaggcaatccaccctccttggcctcccaaagtgctgggattacag gtgtgagccactgcacccagcccacctttaattttttacactctacccttttggtcaaaatttgctcaatctgcaagc ttaaaatgtgtcatgacaaacacatgcaagcacatactcacacatagatgcagaaacagcgtctaaacttataaaagcac agtttatgtaaatgtgtgcacttcttctccctaggtggtaaaccacatttcaaaacaacccaaataaaactgaacaaagc ttcttcctcttagactttttagaaaatctttcagtgctgagtcactaagctgccaagttctcattgtgggaactatgcct ttggatgtaatgatttcttctaagacaatgggcggaggtgtagttattgcagacatctgaaatatgtaatgtttcttcca gtgtgtagggatcaggatgcgggaggagctgggttctgcttgtattggttctctgtttttgcattgaatagtgtgtttcct tgtatggctatctatagcttttcaaggtcaccagaaattatcctgtttttcaccttctaaacaattagctggaatttttc aaaggaagacttttacaaagacccctaagctaaggtttactctagaaaggatgtcttaagacagggcacaggagttcaga ggcattaagagctggtgcctgttgtcatgtagtgagtatgtgcctacatggtaaagctttgacgtgaacctcaagttcag  $\tt ggtccaaaatctgtgtgcctttttactttgcacatctgcattttctattctagcttggaatctgaaacattgacaagagc$ tgcctgaaatgtatgtctgtggtgtgattagagttacgataagcaagtcaatagtgagatgaccttggagatgttgaact agttacctagttactgaagcaagcccccaaagaaatttggtttggcaacactttgttagcctcgtttttctctctacatt  ${\tt gcattgctcgtgaagcattggatcatacgtacatttcagagtctagagggcctgtccttctgtggcccagatgtggtgct}$  $\tt ggggcctccagCTTTCTGCGGGTGATGACCCGGTCAATGCCCCTCTTCATGACGCTGGCTTGATTACTCAGTGGCTGT$ <u>GATCATCAAGGGCATCGTGTATGAGAAGGAGGCACGGCTGAAAGAGACCATGCGGATCATGGGCCTGGACAACAGCATCC</u> TCTGGTTTAGCTGGTTCATTAGTAGCCTCATTCCTCTTCTTGTGAGCGCTGGCCTGGTGATCGTCATCCTGAAGgtaagg caagcctctggtagagaaggggtcatacctgtcatttcctgcaatttcatccatttatagttggggaaagtgaggcccag agaggggcagtgacttgcccaaggtcaacccagccgggtagcagctaagtaggatgagagtgcagggttcatgctttcca ggaag cagaggctgaaatagagtttgatgtatgggtatttatgagggctcaatacctatggaagagatatggaagatgca $\tt ggattgggcagagggaggtgaactgtgatatagggccaaccccgtggggcactctagagaatatgcagcttgttgga$  $\verb|ctcaatcactggatgtgggctgccctgggaaggtcgtgccccagggcctacatggctctctgctgctgtgacaaac| \\$  $\verb|ccagagttgctgatgcctgatgccgtctactgacagctgggcaacaaggcttccctgaatggggactctgggcagtgcag|\\$  ${\tt aaatagttcctactgattgccaaggactgtttaaacacatcacatgggcttcttcttctatcctcactaacccttttaac}$  ${\tt agacaaggaaatgaggctcaggaaggtcaaggactttattgaggttccacagtaggatacagttcttgctaaaagcaacc}$  ${\tt tgctctgagacaactgcatgctggtgggtcctgcagacatgtacccatcagccggagataggctcaaaatatccacaaga}$ 

Figure 12H - (3)





### TECH CENTER 1600/2900 56/79

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Figure 12H - (4)





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TECH CENTER 1600/2900

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Figure 12H - (5)





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Figure 12H - (6)

SEQ ID NO: 22
Genomic conting conting asc1 exon 23 to 28:

 $\tt gtgaacacacattaaagcatgagaagcatgaactagacatgtagccaggtaaaggccttgctgagatggttggcaaaggc$  $\verb|ctcattgcagcattcattggcaggccacagttcttttggcagctctgcttcctgacctttcaccctcaggaagcgaggct| \\$  ${\tt gttcacacggcacacacatgccagacagggtcctctgaagccacggctgccagtgcatgtgtcccagggaaagcttttcc}$  $\verb"ctttagttctcacacaacagagcttcttggaagccctccccggcgaaggtgctggtggctctgccttgctccgtccctga$  $\verb|cccgttctcacctccttctttgccateagGAGGACAGTGTTTCTCAGAGCAGTTCTGATGCTGGCCTGGGCAGCGACCAT| \\$  ${\tt GAGAGTGACACGCTGACCATCGgtaaggactctggggtttcttattcaggtggtgcctgagcttcccccagctgggcaga}$ gtggaggcagaggaggagggtgcagaggctggtggcgctgactcaaggtttgctgctgggctggggctgggtggctgcg  ${\tt tgtcccagagagctgagatgattggggtttggggaatcccttaggggagtggacactgaataccagggatgaggatctga}$ gggccaagccaggagggtgggatttgagcttagtacataagaagagtgagagcccaggagatgaggaacagccttccaga  $\verb|ttttcttgggtagcgtgttgtaggaggccagtgtcaccagtagcatatgtggaacagaagtcttgacccttgctatctct|$ gagggaacctactttataagcataggaaagggtgaagaatcttttaagattcctttactcaagttttcttttgaagaatc ccagagettaggeaatagacaccagaetttgageetcagttatecatteacceatecacccacccacccatectte catcctcccatccccattcacccatccacccatccagctgtccacccattctacactgagtacctataatgtgcctgg ctttggtgatacaaaggtgaataagacatagtcctttcctttgcccccaaccctcagaccagagatgaacatgtggaatg acctaaacacctggaacaggtgtgtgtatgagcggcaggcctctgatgagagggtgggggatggccagccctcactccg aagcccctctgagttgattgagccatctttgcattctggtcctgcagATGTCTCTGCTATCTCCAACCTCATCAGGAAGC **ATGTGTCTGAAGCCCGGCTGGTGGAAGACATAGGGCATGAGCTGACCTATGTGCTGCCATATGAAGCTGCTAAGGAGGGA**  ${\tt CCTGGAAGAAgtaagttaagtggctgactgtcggaatatatagcaaggccaaatgtcctaaggccagaccagtagcctgc}$  ${\tt attgggagcaggattatcatggagttagtcattgagtttttaggtcatcgacatctgattaatgttggccccagtgagcc}$  ${\tt atttaagatggtagtgggagatagcaggaaagaagtgttttcctctgtaccacagtacatgcctgagatttgtgtgttga}$  ${\tt aaccagtggtacctaacacatttacatcccaaccttaaactcctatgcacttatttaccctttaatgagcctctttactt}$  ${\tt aagtacagtgkgaggaacagcggcatcaggatcacttgggaacttgttagaaattcagcaacttgggcccagctcagacc}$ tgacaaacgtttatggatggatagtctacttgtgccaggtgctgagatttgttttttgtttttttaatcactgtgacctcatttaattctcaaaaaaagatgaaaaaatgaacactcaggaatgctgacatgagattcagaatcaggggt  $\verb|ttggggcttcaaagtccatcctctttatccatgtaatgcctccccttagagatacaacatcacagaccttgaaggctg|$ aaggggatataaaagctgtctggccaagtggtctccaagcttgacagtgcagcagaatcacctggggatattattaaaaa taaacatactaaggtttggcttcagggcctgtgaatcagaatttctggaggtgaggccttgaagtctgtatttctattgc ${\tt atactttggacacagtggtctatagactagagtttggaaatgattgcgctcattcagattctcttctgatgtttgaattg}$ ctgccatcatatttctagtgctctatttcctcctgctcattctgtcttggataacttatcatagtactagcctactcaaa gatttagagccacagtcctgaaagaagccacttgactcattccctgtaggttcagaataaatttcttctgcgcagtgtct gtcatagctttttttaaatttttttttttttgatgagactggagttttgctcttattgcccaagctggagtgcagtgg tgcgattttggctcactgcaacctccacctcccaggttcaagcgattctcctgcctcagcctcccaagtagctgagatta agctccagacctcaggtgatctgcccgcctcggcctcccaaagtgctgggattataggcctgagccacagcgctcagcca taactttaatttgaaaatgattgtctagcttgatagctctcaccactgaggaaatgttctctggcaaaaacggcttctct cccaggtaactctgagaaagtgttattaagaaatgtggcttctactttctctgtcttacggggctaacatgccactcagt TTCCTCAAGGTGGCCGAAGAGAGTGGGGTGGATGCTGAGACCTCAGgtaactgccttgagggagaatggcacacttaaga tagtgccttctgctggctttctcagtgcacgagtattgttcctttccctttgaattgttctattgcattctcatttgtag

Figure 12 I - (1)





TECH CENTER 1600/2900 gatggtaccttgccagcaagacgaaacaggcggccttcggggacaagcagagctgtcttcgcccgttcactgaagatga TGCTGCTGATCCAAATGATTCTGACATAGACCCAGgtctgttagggcaagatcaaacagtgtcctactgtttgaatgtga aattctctctcatgctctcacctgttttctttggatggcctttagccaaggtgatagatccctacagagtccaaagagaa  $\tt gtgaggaaatggtaaaagccacttgttctttgcagcatcgtgcatgtgatcaaacctgaaagagcctatccatatcactt$ tatacattaggtgtttaattgttgaacaaatattcattcgagtagatgagtgattttgaaagagtcagaaaggggaattt ${\tt gctgttagagttaattgtaccctaagacttagatatttgaggctgggcatggtggctcatgccagtaatcccagcgcttt}$ gagaggctgaggtgggtagatcacctgaggtcaggagtttgagaccagtctgaccaacaaggtgaaaccccgtctctact a a ataca a a a a tag c c g a g t g t g g t g g c a t g c t g t c a t c c c a g c t a c t t g g g a g g c t g a g g c a g g a g a a t c g c t t c a t c c a g c t a c t t g g g a g g c t g a g g c a g g a g a a t c g c t t c a c c a g c t a c t t g g g a g g c t g a g g c a g g a g a a t c g c t t c a c c a g c t a c t t g g g a g g c t g a g g c a g g a g a a t c g c t t c a c c a g c t a c t t g g g a g g c t g a g g c a g g a g a a t c g c t t c a c c a g c t a c t t g g g a g g c t g a g g c a g g a a t c g c t t c a c c a g c t a c t t g g g a g g c t g a g g c a g g a a t c g c t t a c c a g c t a c t t g g g a g g c t g a g g c a g g a a t c g c t t c a c c a g c t a c t t g g g a g g c t g a g g c a g g a a t c g c t t a c t t g g g a g g c t g a g g c a g g a a t c g c t t a c t t g g g a g g c t g a g g c a g g a a t c g c t t a c t t g g g a g g a c t g a g g c a g g a a t c g c t t a c t t g g g a g a c t g a g g c a g g a c t g a c t t g c t t a c t t g g g a g a c t g a g c t g a g ggaacccaggaggcagaggttgcagtcagccacggttgcgccattgcactccagactgggcaacaagagtgaaaactccat ctcaaaaaagaaaaaaaagaattagatattttggatgagtgtgtctttgtgtgtttaactgagatggagaggagagcta agacatcaaacaaatattgttaagatgtaaaagcacatcagttaggtatcattagtttaggacaaggatttctagaaaat cttcatacagtatcagtacttagatcatttgaaatgtgtccacgttttaccaaaatataatagggtgagaagctgagatg ctaattgccattgtgtattctcaaatatgtcaagctacgtacatggcctgtttcatagagtagtctataagaaattgatg acttgattcatccgaatggctggctgtaacacctggttacgcatgaacacctcttttcagttgtctcaagacacctttct  ${\tt tttctgtacttatcagacaaggactgaaaggcagaagactgctactgttagacattttgagtcaagcttttccttggacat}$ agctttgtcatgaaagccctttacttctgagaaacttctagcttcagacacatgccttcaagatagttgttgaagacacc agaagaaggagcatggcaatgccgaaaacacctaagataataggtgaccttcagtgttggcttcttgcagAATCCAGAGA GACAGACTTGCTCAGTGGGATGGATGGCAAAGGGTCCTACCAGGTGAAAGGCTGGAAACTTACACAGCAACAGTTTGTGG CCCTTTTGTGGAAGAGACTGCTAATTGCCAGACGGAGTCGGAAAGGATTTTTTGCTCAGgtgagacgtgctgttttcgcc agagactctggcttcatgggtgggctgcaggctctgtgaccagtgaaggcaggatagcatcctggtcaagatatggatgc cggagccagatttatctgtatttcaatcccagttctattccttgccagttgtgtatccgctggcaagttacttctctatg cctcaatctcctcatctgtaaaatggggataataatattacctgcaatacagggttgttacgaaaataaaaatgaatagg aaaggacaaagtgtagaaaaactggttgggtgtattcagctgtcataacatgagagttgttatgcccagatgcacttgac atgtgaatttattagaaacatgatttttctctgagttgatgtttaactcaaactgatagaaaagataggtcagaatatag attttttcactctataaaatcaagaaatatagagaaaaggtctgcagagagtctttcatttgatgatgtggatattgtta agagcgggagtttggagcatacagagctcaagttgaatcctgactttgctacttattggctatatgaccttgggcaagctgagatagttctcattatagtagttgttatacagaattattcactcaatgttaattttctgcattgaaatcccagaacattagaattgggggcattatttgaatctttaaggttataaggaatacatttctcagcaataaatggaaggagttttgggttaa $\verb"cttataaagtatacccaagtcatttttttcagagaagatatggtagaaagtcttaggaggttgaagaaggaattggata$  $\verb|tttattctttctgagactatcatgggagataatgactatggttgtccatgattggagccgttgctgtagagttggtttta|\\$  $\verb|ttatagtgtaggatttgaatgggccatgtgttctcagacctcagaataaaaagagaaaactgaggccagtggggagcgtg|$  ${\tt acttcacatgggtacacttgtgctagagacagaaccaggattcaggacttctggctcctggtcctgggttcatggcccaa}$ tg tag tc tt tc tc ag tc tt cag gag gag gag gag gac cc ag tg tt ct gag tc accct gaa tg tg ag cac ta tt tacttcgtgaacttcttggcttagtgcctctgccaggtggccataacctctggccttgtgttgccagagaaaaggtttagtttt ${\tt caggctccattgcttcccagctgccaagaatgccttggtgcagcacagtcataggccctgcattcctcattgccgtgctg}$  $\tt gttggtcggggaggtgggctggactcgtagggatttgccccttggccttgtttctaacacttgccgtttcctgctgtccc$  $\verb|cctgcccctccactgcctgggtaaagATTGTCTTGCCAGCTGTGTTTGTCTGCATTGCCCTTGTGTTCAGCCTGATCGT|\\$  ${\tt GCCACCCTTTGGCAAGTACCCCAGCCTGGAACTTCAGCCCTGGATGTACAACGAACAGTACACATTTGTCAGgtatgttt}$  $\tt gtcttctacatcccaggaggggtaagattcgagcagaccaaagatgtttacgagggccaagggaatggacttcagaatt$ acacggtggaat

Figure 12 I - (2)





SEQ ID NO: 23
Genomic contig containing ABC1 exon 29:

gcccacattttcttcttacatagttcaggtttactttattttttcctttccggctgctgaccctgtattgcccgtagttg ttgccctttcttggaaaatcctgcttgtctgtgccaaagggataattgtgaaagcacttttgaaatacttaatgagttga cccatttaaaacaagctccactttggagtgctctacgtcaccctgatgccgaatacagggccagagtctgagatccttct gggtggtttctgtgttttgttcatttctgttttaagagcctgtcacagagaaatgcttcctaaaatgtttaatttataaa CAATCCCgtgagtgccactttagccataagcagggcttcttgtgcttgttgcctggtttgatttctaatatgctgcattt gtaaccgaactaaattatctaggaacaaacgtttggagagtcttctaacaccgyscaaagcacgtcattacagacatttg  $\verb|tttactgatttagaaccttaatatttaatttaaatacgcactttacacttactgatgaaatgcttttcctttctct|$  $\verb|cccagcccctgtacttaagtgcttcaataggctctcattatatatgatttttaggttttgcttatcagcttcttcgcttt|\\$ tataatctgaaaagatggcatatgaatttttataaaaagggacactttcttcttctcaaattgtatatttttattgtacttaggggaagggaggtcaccagatcactgtgagtgaagatggtggagggtgaggatcttatgaggccgtgctcaaggctg gtagaggtgggttagtgtttccaggtttaggcagaatctcagctgaggtcatgaaacaacagtgatctctgaaaaattat ggcaaggtgggaaggtgctggagaattggagagggggcaaacttgactttcaagtttcaatgggaagataggtgactctg  ${\tt cacaccacagaacagtgagcatgataacctgtttatacaaggttctagagcagatttctaaatggatagctactgtgtgc}$  ${\tt ttgtttgttcttaattagtattggatagttactaaatacttgttagtacttagtacataatgggtggtaaatcctagcag}$ ctaatattggttcccaaataaccagatgacaaggatagagaaggacacagacacggcctatctggatttcatggtgcctt tgattttccacatgaaggttgtgtagggaagatagaagcatgagatgagatgataatatagttatctggattcatcactg gccagctgaaccatatgaactcatggattgatgctagcttaggaaggctctgtaggagccagaactgggctgagagccag cccatagagacaaaagaggcccggccctgacatcagagggttcaaacatgatgtctgagccccacctacagtctgccgga ggtggttggaaggaagagcctttatccttacaattcttactgaaattcaaatttttaggttttgcaaaaaaatggtggac ctgaaggaaatttgacaggagcatgtctcagctgtatttaaatttgtctcagccaatccccttttgaatgttcagagtgt aagcttcaggagggcagcgcgtcttagtgtgacttttctggtcagttcaggtgctttaaggagacaattagagatcaatc  $\verb|ctctgttgcccaggctggagtgcagttggctcaatcttggctcactgccacctctgcctcccaggttcaagtgattctcct|$ acctcagcctcctgagtagctgggattacaagcatgtgccaccacactggctaa

Figure 12J







SEQ ID NO: 24
Genomic contig containing ABC1 exon 30 and 31:

ctcctcctctttatcattactcttcttcgtagcttatcctactccagccatgctgtcttcctattattcctaaaaarta gaaatgcatttcttcctagggcctttgtacctgcacttgccatcgcttttgctcagaatgttctttttgccaagcttttg cccagcttgttctccatcattgttatgttttggctgaaatgtcttctcttagtaggttcattctccccagtcactgtctt  $\verb|tttattttgctttattttgggccatctaaggttatcttattagtgtatttgttgttcgtctcctccatgggcatacacct|\\$ ccatgaaggcaggtattttcaccttaggccctcgaatatactggacagcatctggcacgtagtagatgctcaacgaatgt ttgttgtgtgagcaaatggttggttgattggattgaactgagttcagtatgtaaatatttagggcctctttgcattctat tttacttatgtataaaatgatacataatgatgatataaatgatgtcacagtgtacaaggctgttgtggggatcaagcaatc aaatgagatcatgcttgtcttttccaaatggtgagggaatagatgcatgtttgtggttgttacggaatgatcctgtgctc ctgaggcaacagaaaggccaggccatctctggtaatcctactcttgctgtcttccctttgcagAGACACGCCCTGCCAGG CAGGGGAGGAAGAGTGGACCACTGCCCCAGTTCCCCAGACCATCATGGACCTCTTCCAGAATGGGAACTGGACAATGCAG AACCCTTCACCTGCATGCCAGTGTAGCAGCGACAAAATCAAGAAGATGCTGCCTGTGTGTCCCCCAGGGGCAGGGGGGCT GCCTCCTCCACAAgtgagtcactttcagggggtgattgggcagaaggggtgcaggatgggctggtagcttccgcttggaa ttgctctgtcgcccaggctggagtgctgtggcatgatcttgcctcactgcaacctccacctcccaggttcaagcgattct agggtttcgccgtgttggctaggctggtctggaattcctgacctcaggtgatccacccgcctcggcctcccaaagtgctg ggattacaggcgtgagccactacgcccagccctgtttcagtctttaactcgcttcttgtcataagaaaaagcatgtgagt tttgaggggagaaggtttggaccacactgtgcccatgcctgtcccacagcagtaaagtcacaggacagactgtggcaggc ctggcttccaatcttggctctgcaacaaatgagctggtagcctttgacaggcctgggcctgtttcttcacctctgaatta gggaggctggaccagaaaactcctgtggatcttgtcaactctggtattcttagagactctgtttgggaaggagtcctgag  ${\tt ccattttttttttttttttatgagaatttcaggaaggagtgcttatgatagctctctgctgcttttatcagcaaccaaattgc}$ aggatgaggacaagcaattctaaatgagtacaggaactaaaagaaggcttggttaccactcttgaaaataatagctagtc caggtgcggggtggctcacacctgtaatctcagtattttgggatgccgaggtggactgatcacctaaggtcaggagttcg aaaccagcttggccaatgtggcgaaaccctgtctctactaaaaattcaaaaattagccaggcatggtggcacatgcctgt aatcccagttacttgggaggctgaagcaggagaattgcttgaacctgggaggtggaggtcgcagggagccaaaattgcgc cactgtactccagcctgagcaacacagcaaaactccatatcaaaaaataaaatgaataaaataacagctaatctagtcat cagtataactccagtgaacagaagatttattaggcatagtgaatgatggtgcttcctaaaaatctcttgactacaaagaa  ${\tt tctcatttcaatgtttattgtttagatgttcagaataaattcttgggaaagaccttggcttggtgtaagtgaattaccag}$ tgccgagggcagggtgaaccaagtctcagtgctggttgactgagggcagtgtctgggacctgtagtcaggtttccggtca  ${\tt cactgtggacatggtcactgttgtccttgatttgttttctgtttcaattcttgtctataaagacccgtatgcttggtttt}$ catgtgatgacagAGAAAACAAAACACTGCAGATATCCTTCAGGACCTGACAGGAAGAAACATTTCGGATTATCTGGTGA  ${\tt AGACGTATGTGCAGATCATAGCCAAAAGgtgactttttactaaacttggcccctgccttattattactaattagaggaat}$ taaagacctacaaataacagactgaaacagtgggggaaatgccagattatggcctgattctgtctattggaagtttagga tattatcccaaactagaaaagatgacgagagggactgtgaacattcagttgtcagcttcaaggctgaggcagcctggtct agaatgaaaatagaaatggattcaacgtcaaattttgccac

### Figure 12K





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SEQ ID NO: 25
Genomic contig containing ABC1 exon 32:\_

Figure 12L

64.76



SEQ ID NO: 26
Genomic contig containing ABCT exon 33 to 36:

gctttatagagtttctgcctagagcatcatggctcagtgcccagcagcccctccagaggcctctgaatatttgatatact  $\verb|ttgtactttcccccaaaccagattcccgaggcttcttaaggactcaaggacaatttctaggcatttagcacgggactaa|$  ${\tt aaaggtcttagaggaaataagaagcgccaaaaccatctctttgcactgtatttcaacccatttgtccttctgggttttga}$  ${\tt aggaacaggtgggactggggacagaagagttcttgaagccagtttgtccatcatggaaaatgagataggtgatgtggcta}$  $\verb"cgtcagggggccgaaggctccttgttactgatttccgtcttttctctctgccttttccccaagggccaggacccctgga$  $\verb+tctctgggcagagcagagcccctataatagccctcatgctagaaaggagccggagcctgtgtataaggccagcgc$  ${\tt agcctactctggacagtgcagggttcccactctcccaactccccatctgcttgcctccagacccacattcacacagagc}$  ${\tt cactgggttggaggagcatctgtgagatgaaacaccattctttcctcaatgtctcagctatctaactgtgtgtaatca}$ ggccaggtcctccctgctgggcagaaaccatgggagttaagagattgccaacatttattagaggaagctgacgtgtaact tctgaggcaaaatttagccctcctttgaacaggaatttgactcagtgaaccttgtacacactcgcactgagtctgctgatgatactgtgcaccccactgtctgggttttaatgtcaggctgttcttttagGTATGGCGGCTTTTCCCTGGGTGTCAG taaaatatctatcgtaagatgtatcagaaaaatgggcatgtagctgctgggatataggagtagttggcaggttaaacgga ${\tt tcacctggcagctcattgttctgaatatgttggcatacagagccgtctttggcatttagcgatttgagccagacaaaact}$ gaattacttagttgtacgtttaaaagtgtaggtcaaaaacaaatccagaggccaggagctgtggctcatgcctgtaatcc tag cactttggg agg ctg aag cgg tgg at cacttg agg tcag gag ttcg aga ccag cctg gcct acat gac aa accecgtatctactaaaaatacaaaaaattagctgggcttggtggcacacacctgtaatcccagctacttgggaggctgaggca ggagaattgcttgaaccctgtaggaagaggttgtagtgagccaagatcgcaccgttgcactccagcctgggcaacaagag caaaactccatctcaaaaaacaaattaaatccagagatttaaaagctctcagaggctgggcgggtggcttacacctgtt atcccagcattttgggatgccgaggcgggcaaagcacaaggtcaggagtttgagaccagcctggccaacatagtgaaacc ctgtctctgctaaaaacatagaaaaattagccgggcatggtggcgtgcgcctgtaatcccagctactcgggaggctgagg tgagagaattrettgaacccgggaggcggaggttgcagtgagcccagattgcaccactgcactccagcctgggcgacagataggacctgataagtactcacttcatttctctgtgtctcaggtttcccatttttaggtgagaattaaggggctctgataa ${\tt aacagaccctaggattgtggacagcagtgatagtcctagagtccacaagtctgcttttgagtgatgggcccatgtatctg}$  $\tt gcacatctgcaggcagagcgtggttcttggctcttcagatgatgccggttggagcactttgaggagtcctcaccccaccgtg$ ataaccagacattaaaatcttggggctttgcatcccaggatttctctgtgattccttctagacttgtggcatcatggcag  $\tt ggtagtggcattgctcttcacagggccgtcctgttgtccacaggttccagattgactgttgccccttatctatgtgaaca$  ${\tt AGGACTGGACACCAGAAATAATGTCAAGgtaaaccgctgtctttgttctagtagctttttgatgaacaataatccttatg}$  $\verb|tttcctggagtactttcaactcatggtaaagttggcaggggcattcacaacagaaaagagcaaactattaactttaccag|$  ${\tt taacctatctaaacctcagttycctcatctgtgaaatggagacagtaatcatagctatttccaaactgttgtgagaattc}$ aatgagttaaaggtataaggtcctcaccacagcgcctgcccacatagtcagtgatcactatgtcctgaacactgtaatta TAACAAGGGCTGGCATCCAATCAGCTCTTTCCTGAATGTCATCAACAATGCCATTCTCCGGGCCAACCTGCAAAAGGGAG  ${\tt AGAACCCTAGCCATTATGGAATTACTGCTTTCAATCATCCCCTGAATCTCACCAAGCAGCAGCTCTCAGAGGTGGCTCTg}$  ${\tt taagtgtggctgtgtctgtatagatggagtggggcaagggagaggggttatggagaaggggagaaaaatgtgaatctcatt}$  $\tt gtaggggaacagctgcagaagccgttatattatgataaatctggattgatccaggctctgggcagaagtgataagtttac$ gaattggctggttgggcttcttgaactgcagaagagaaaatgacactgatatgtaaaaatcgtaacatttagtgaattca

Figure 12M – (1)



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Figure 12M - (2)

15





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SEQ ID NO: 27 Genomic contig containing ABC1 exon 37 to 41:

aaattactctgactgggaatccatcgttcagtaagtttactgagtgtgacaccttggcttgactgttggaaagacagaaa gggcatgtagtttataaaatcagccaaggggaaaatgcttgtcaaaatgtattgtcgggtattttgattaatagtttatg tggcttcattaattcagagttactctccaatatgtttatctgccctttcttgtctgataatggtgaaaacttgtgtgatg cattgtatatttgatttaggggtgaactggatgtctttgttttcacttttagTGCAATTACGTTGTCCCTGCCACACTGG TCATTATCATCTTCATCTGCTTCCAGCAGAAGTCCTATGTGTCCTCCACCAATCTGCCTGTGCTAGCCCTTCTACTTTTG CTGTATGGgtaagtcacctctgagtgagggagctgcacagtggataaggcatttggtgcccagtgtcagaaggagggcag ggactctcagtagacacttatcttttgtgtctcaacagGTGGTCAATCACACCTCTCATGTACCCAGCCTCCTTTGTGT TCAAGATCCCCAGCACAGCCTATGTGGTGCTCACCAGCGTGAACCTCTTCATTGGCATTAATGGCAGCGTGGCCACCTTT GTGCTGGAGCTGTTCACCGACAATgtgagtcatgcagagagaacactcctgctgggatgagcatctctggggagccagagg acagtgtttaattgtgatcttattccacttgtcagtggtattgacactgctgactgccttgtcctgtcttcagagtctgt cttccctgagaaggcaaagcacctttctttcttgctgtgccttacattttgctggtcaagcctttcagtttcttttgaca gttttttttacttctttttttcaatgttgctcttaccaagagtagctcctctgccttccactttacacatgagagct gggcgacgcattcagtcctaaggcttttaccatcacctctcttggtgtttttattgtcatctctaagatcaatgccttta  ${\tt gccttgatcataaccttgaactctaatctcaaattctcacttgcctagtggattgctccatttagatagtatatagatac}$  ${\tt cccaacctggatatgtcctagttttctttccccttggaacttaatgcttttcttgccatccctgtcacactcagtggcac}$ actggttatgttgtcagttcttccaggtatggacctctaaaataaggcttcctccattccggttgtcattgcctttgt ccaaacacagcacacaaggccttttacagttgcacaactcttcctgtccatacccaccaccaccctttcccagctgtaagc  ${\tt ttcagatgagttgcctccaaccaccatgctcctgtaggcctggcttgaaatgcccttcttctgtcacagggtctggtagt}$ atatcccttgcccttcaagatttagctaaaatgtgaagctttccttacctgctgggaggtgttctctcttttctctgtgc  ${\tt tcteagagtccttagtccatgcctccagtacaacgtacatccacttacatggtaatttcctgtttacatacttttcctac}$ tcggagtggagtctgtttcttaataattttgcctctcccatgccctagcacagtgcatccagcgtatagccccttattcagttggtagatatttggccactgttgccttgtgggatcataagttctgatgtatttgagaagaatttctaaaattctgaca aaatcctgaaactcaaatattgacccagacatgagcaatttgcttttcaaatgctaagggatttttaatggatttgcttt aattaaatctagcctgtttctaagctttattcattatttctccatactcagagcatttctccagattttctaaagaatag aattttattgctacatatcatcagctatgcctgctgctatttaattggtatctgaattaaaaggtctggtttgtccctag  ${\tt TGGAAAGGTTTGgtgaagtgaagcagtggctgtaaggatgctttaatggaagatggcactctgcataggccttggtaccctga}$ actttgttttggaaagaagcaggtgactaagcacaggatgttcccccacccccatgcccagtgacagggctcatgccaac  ${\tt acagctggttgtggcatgggttttgtgacacaaccatttgtctgtgtctctgatagcattgagaaaagtgaaagggcagt}$  ${\tt tttgaaggtaaggaaaatagtgttatttgcttggatccactggctcatgccactgtctgggttagtagaagcactggaa}$ aagtcaaaccataactttgagaattaggtgatcagggaatcagaaggaaagatgcaaactttggctcttttaggcgaatc atgtgcctgcagatgaggtcatttattatcttttacacagtctataaaattataatgtattacatctttttctaccttta gaatggttaaaaatatttctccggtagccatatgattattattcatccattagataatatagtcaaatgggccatgttat  ${\tt ttactgttcatagaagagggctttttgcaacttgggctacaaaggagatatgtaaggaatttaaggaatggttacatgg}$ aactagatttaattgaatctagtggtttaattgattcactaggatatatgctactgaaaggggaatctgcttaaagtgct aaaaggatttttggcatgtctcattaaaaaaagaaatactagatatcttcagtgaagttacaaatcgaatacacattggc tctgaaattctgattgatactgggtcataaaaagttttcccaaatcagacttggaaagtgatcactctcttgttactctt  $\verb|tttccttgtcatgggtgatagccatttgtgtttattggaagatcggtgaattttaaggaacataggcccaaatttgagg$ aagggccatggtttttgatccctccattctgaccggatctctgcattgtgtctactagGCGAGAATCGCTTTGTGTCACC ATTATCTTGGGACTTGGTGGGACGAAACCTCTTCGCCATGGCCGTGGAAGGGGTGTTCTTCCTCATTACTGTTCTGA





Figure 12N - (2)

SEQ ID NO: 28 TECH CENTER 1600/2900 Genomic cort

68/76

Genomic contig containing ABC1 exon 42 to 45:

ttttaaaaatacctgcaatacatatatgttgaatagatgaaaaattatgtagatgataatgaatgatacggttctaaaa agacaggttaaaaagtaagttcacttttattttgagcttcagaatcattcagaagccagtcgccacaaacgcagaccaag gctcttggcacatcaaatatgcctatggcttagggttattgacaagtcttatgttgcagtgtatgtggtttatagtcctg GGAAGCCGGAAGCCTGCTGTTGACAGGATTTGCGTGGGCATTCCTCCTGGTGAGgtaaagacactttgtctatattgcgtt tgtccctattagttcagactatctctacccaatcaagcaacgatgctcgttaagaggtaaaagtggattttaaaggcttc tgtatttatgccaggatggagcaattagtcatcgagaagagggaccctgtatgtcaagagaatgatttcagagaatcc aatacaatttaagaaaaagcatggggctgggcgcagtgattcactcctgtaatcccagcactttgggaggccgaggtggg cggactcacgaggtcaggagattgagaccatcctggccaacatggtgaaaccccatctctactataaatacaaaaattag ctgggcatagtagtgcattcctgtagtcccagctactcgggaggctgaggcaggagaattgcttgaacctaggagggga cacatctaaaacatgcttttgtgatccatttgggatggtgatgacattcaaatagtttttaaaaaatagattttctcctttctggtttccgtttgtgttcttttatgcccttttgccagagtaggtggtgcaatttggctagctggctttcattactgtttttcacacattaactttggcctcaacttgacaactcaaataatatttataaatacagccacacttaaaatggtcccatta tgaaatacatatttaaatatctatacgatgtgttaaaaccaagaaaatatttgattcttctctgatatttaagaattgaa ggtttgaggtagttacgtgttaggggcatttatattcatgtttttagagtttgcttatacaacttaatctttccttttca  ${\tt gTGCTTTGGGCTCCTGGGAGTTAATGGGGCTGGAAAATCATCAACTTTCAAGATGTTAACAGGAGATACCACTGTTACCA}$ GAGGAGATGCTTTCCTTAACAAAATAGgtgagaaaagaagtggcttgtattttgctgcaaagactttgttttaattta tttaaagaaataggttgttatttttgattacagtggtatttttagagttcataaaaatgttgaaatatagtaaagggtaa agaagcacataaaatcatccatgatttcaatatctagagataatcacaatttacatttcctttcagtctcattctcttct tttaacagctttattcaggtataatttacatacaatataatttgcttgttttttaagagtataatttagtgatttttggt  ${\tt aaattgagagttttgcaaccatcaccacaatccagttttagaacttttccatcacccacatctgtcttatatacacata}$ tttcccagtgggttacatttcctaagatgtggaattttacattgctacataaaatccccctatgtacatgtacctataat ttatttaataaattccttataaatgttggacacattagtttccatttttcactatgtaaatatgtccctgtatacatctt ttattatttcctcaggaacaattcctacaaagtaaattgccctctctaaagagcatacaaattgactgagccaccgttag gccattttctgagactgcacaggtcacaaagcaatctgatctttgggaatacagctacattttataggcttcttagataa ggctggagagcaatggcgcgaccttggctcactgcaacctccgcctcccaggttcaagcgattctcctgcctcagcctcc gttggccagactggtctcgagctcctgacctcaggtgatccacctgcctcagcctcccaaagttctgggattacaggcat gagccactgcgcccggcttctctggacttattatgtggagagatagtacaaggcagtggctttcagagtttttttgaccat gaccgttgtgggaaatacattttatatctcaacctagtatgtacacacagacatgtagacacatgtataacctaaagttt cataaagcagtacctactgttactaattgtagtgcactctgctatttcttattctaccttatactgcgtcattaaaaaaag tgctggtcatgacccactaaatttatttcccaaaccactaatgaacaatgactcacaatttgaacacactggacaggggg atagccaataaaattgaaaagagcaaggaaattaatgtattcatgatctcctctcctgtctcttacatttttgcagtagc aatgtaaaggaatcctaagagaacagacattctgggaatagcaggcctagcgctgcacaactgctttcctaggcttgctc  $\verb|ctagtaccaag| \verb|ctagtaccag| catalag cagtag cagtaata accagc ccatagta agg tt tg tcacagg gactg gt tg tagtag accagg to the control of the cont$ agaactgatttgrttggtatagctgtgagggcctggcacggtgtccacgtgtgcctcaatcctaattctgaaaaaggctg gaggtg cagt cat cagt ctgg a a cattga a ctt ctc t cat cattgt gatt ctt cattga ctgg ctt cataga a ctccaaagccacccaccaccacataaattgtgtctctaggttctgtgttgctcacactcaaaatttctgggccttctcatttggtgcatgtgaatggtgcatatgagtgaagtctaggatggggccttagcgttaaagccctggggtagtgtgactgagattgttggtaaagaatgtgcagtggttggcatgacctcagaaattctgaaatgggactgcacctgcagactgaagtgttcag

Figure 120 – (1)





 ${\tt aaaggctgtgctttcaagtagcagcagatgtattggtatctttgtaatggagaagcatactttacaggaacattaggcca}$ gattgtctaaccagagtatctctacctgcttaaaatctaagtagttttcttgtcctttgcagTATCTTATCAAACATCCA TGAAGTACATCAGAACATGGGCTACTGCCCTCAGTTTGATGCCATCACAGAGCTGTTGACTGGGAGAGAACACGTGGAGT TCTTTGCCCTTTTGAGAGGGGTCCCAGAGAAAGAAGTTGGCAAGgtactgtgggcacctgaaagccagcctgtctccttt ggcatcctgacaatatataccttatggcttttccacacgcattgacttcaggctgtttttcctcatgaatgcagcac gtgctgctcccaccacacgagtcccttctccctgctttggctcctcaccagttgtcaggttatgattatagaatctagtc ctactcagtgaaagaactttcatacatgtatgtgtaggacagcatgataaaattcccaagccagaccaaagtcaaggtgc tttttatcactgtagGTTGGTGAGTGGGCGATTCGGAAACTGGGCCTCGTGAAGTATGGAGAAAAAATATGCTGGTAACTA TAGTGGAGGCAACAAACGCAAGCTCTCTACAGCCATGGCTTTGATCGGCGGGCCTCCTGTGGTGTTTCTGgtgagtataa ctgtggatggaaaactgttgttctggcctgagtggaaaacatgactgttcaaaagtcctatatgtccagggctgttgtat gattggcttgtcttcccccagggacagcagagcaaccttggaaaagcagagggaagcttctcccttggcacacactgggg tggctgtaccatgcctgcagatgctcccaaatagaggcactccaagcactttgtttcttagcgtgattgaggctggatatgtgatttgatctttctctggaacattctttctaatcatctttgtgttcattccctgaaaatgaagagtgtggacacagct ttaaaatccccaaggtagcaactaggtcatagttccttacacacggatagatgaaaaacagatcagactgggaagtggcc $\verb"cttgacctttttcttctgtagataagagcattgatgttattacgggaagaagcctttgaggcttttatgtattccacct"$ ggaatttcaccccaatcttatactgacttcaatagaggtttcagacaaaaagttgttttgtat

Figure 120 - (2)

SEO ID NO 29

Genomic couting containing ABC1 exon 46 to 49:

ngccnngttnaaaangaaaatttnnnnnaaattnaannttannggngnnntttccccagaaaaaacnaaaangatttccn cccnggggggncccccnantcnaaaaggccccncttntttgnggngagggaaagntttttttggaatttttaatttttgg tcccccaaaacctattattgagaatttaattacataaaaaagtactcagaatatttgagtttcctgcatcaataagacat ttataataatgaccttgtttacaaatgaatttgaaagttactctaattctttgattcatcaagaaataactagaatggca agttaaaatttaagctgtttcaaagatgcttctgcatttaaaaacaaatttatctttgatttttttccccccagcaaat aagacttattttattctaattacagGATGAACCCACCACAGGCATGGATCCCAAAGCCCGGCGGTTCTTGTGGAATTGTG CCCTAAGTGTTGTCAAGGAGGGGAGATCAGTAGTGCTTACATCTCATAGgtccgtagtaaaagtcttgggttcctcactgt gggatgttttaactttccaagtagaatatgcgatcattttgtaaaaattagaaaatacagaaaagcaaagagtaaaacaa ttattacctgaaattatatatgcatattcttacaaaaatgcaagcccagtataaatactgctctttttcacttaatatat tgtaaacattattccaagtcagtgcatttaggtgtcatttcttatagctggatagtattccattaggatatactcttatt taactattcccccttttgtagacatttggattatttccaacttgttcacaattgtaaacaccactacactgaacagcatcatccctatatccacatgtacttgtaacagaatacaattccctaggaagctggaatgctggaagtcatggtgatgttctca tggttacagagaatctctctaaaactaaaacctctttctgttttaccgcagTATGGAAGAATGTGAAGCTCTTTGCACTA GGATGCCAATCATGGTCAATGGAAGGTTCAGGTGCCTTGGCAGTGTCCAGCATCTAAAAAAATAGgtaataaagataattt  $\verb"ctttgggatagtgcctagtgagaaggcttgatattattcttttgtgagtatataaatggtgcctctaaaataaagggaa$ ataaaactgagcaaaacagtatagtggaaagaatgagggctttgaagtccgaactgcattcaaattctgtctttaccatt tgctatagatgaaatgaaaaaatttacatgtgccagtactggtgagagcgcaagctttggagtcaaacacaaatgggtt tgcatcctggccctaccaattatgagctctgagccatgggcaagtgactaactccctgggcctcagtttctctgtaacat $\verb|ctgtcagacttcatgggtccaggtgaggattaaaggagatcatgtatttacagcacatggcatggtgcttcacataaaat|$ aagtatttagtaaatgataactggttccttctctcagaaacttatttctgggcctgccaggggccgccctttttcatggc acaagttgggttcccagggttcagtattcttttaaatagttttctggagatcctccatttgggtattttttcctgctttc agGTTTGGAGATGGTTATACAATAGTTGTACGAATAGCAGGGTCCAACCCGGACCTGAAGCCTGTCCAGGATTTCTTTGG ACTTGCATTTCCTGGAAGTGTTCYAAAAGAGAAACACCGGAACATGCTACAATACCAGCTTCCATCTTCATTATCTTCTC TGGCCAGGATATTCAGCATCCTCTCCCAGAGCAAAAAGCGACTCCACATAGAAGACTACTCTGTTTCTCAGACAACACTT GACCAAgtaagctttgagtgtcaaaacagatttacttctcagggtgtggattcctgccccgacactcccgcccataggtc caagagcagtttgtatcttgaattggtgcttgaattcctgatctactattcctagctatgctttttactaaacctctctg aacctgaaaagggagatgatgcctatgtactctataggattattgtgagaatttactgtaataataaccataaaaactac catttagtgagcacctaccatgggccaggcattttacttggtgcctaatcctatttaaattagataaaaaagtaccaaat aggtcctgacacttaagaagtactcagtaaatattttcttccctcttccctttaatcaagaccgtatgtgccaaagtaaa tggatgactgagcagttggtgatgtagggggggggggatatagaaagtcagtttttggccgggcgtggtggctcatgc  $\verb|ctgtaatcccagcactttgggaggctgaggagcaggcagatcatgaggtcaggagatccagataatcctggccaacaggg|$ tgaaaccccgtctctactaaaaaatacaaaaattagctgggcatggtggtgcgcacttgtagtcccagctacttgcgaggctgaggcaggagaattgctcgaacccaggaggtggaggttacagtgagccaaggtctcgccactgcactccagcctgggga cagagcaagaccccatttcaaggggggaaaaaaagtctatttttaagttgttattgcttttttcaagtattcttccctcc agaactagaataaagaatgagcaagttgagtggtatttataaaggtccatcttaatcttttaacagGTATTTGTGAACTTTGCCAAGGACCAAAGTGATGATGACCACTTAAAAGACCTCTCATTACACAAAAAACCAGACAGTAGTGGACGTTGCAGTTC <u>AGAGGAACTAGACTTTCCTTTGCACCATGTGAAGTGTTGTGGAGAAAAGAGCCAGAAGTTGATGTGGGAAGAAGTAAACT</u> GGATACTGTACTGATACTATTCAATGCAATGCAATTCAATGcaatgaaaacaaaattccattacaggggcagtgcctttg tagcctatgtcttgtatggctctcaagtgaaagacttgaatttagttttttacctatacctatgtgaaactctattatgg taattcatcaagtaatcatggccagcgattattgatcaaaatcaaaaggtaatgcacatcctcattcactaagccatgcc

Figure 12P – (1)



 ${\tt atgcccaggagactggtttcccggtgacacatccattgctggcaatgagtgtgccagagttattagtgccaagtttttca}$ gaaagtttgaagcaccatggtgtgtcatgctcacttttgtgaaagctgctctgctcagagtctatcaacattgaatatca gttgacagaatggtgccatgcgtggctaacatcctgctttgattccctctgataagctgttctggtggcagtaacatgca acaaaaatgtgggtgtctccaggcacgggaaacttggttccattgttatattgtcctatgcttcgagccatgggtctaca gggtcatccttatgagactcttaaatatacttagatcctggtaagaggcaaagaatcaacagccaaactgctggggctgc aactgctgaagccagggcatgggattaaagagattgtgcgttcaaacctagggaagcctgtgcccatttgtcctgactgt ctgctaacatggtacactgcatctcaagatgtttatctgacacaagtgtattatttctggctttttgaattaatctagaa aatgaaaagatggagttgtattttgacaaaaatgtttgtactttttaatgttatttggaattttaagttctatcagtgac ttctgaatccttagaatggcctctttgtagaaccctgtggtatagaggagtatggccactgcccactatttttattttct tatgtaagtttgcatatcagtcatgactagtgcctagaaagcaatgtgatggtcaggatctcatgacattatatttgagt tat gtac gtac gtat a a gac tag a gaz a tat a a gtct cag tac a cttcct gt gcc a t gtt a ttc a gct cac t g gtt tacttgctgaaaaacacaacttgtgtttatggcatttagtaccttcaaataattggctttgcagatattggataccccattaaatctgacagtctcaaatttttcatctcttcaatcactagtcaagaaaaaatataaaaacaacaaatacttccatatggag catttttcagagttttctaacccagtcttatttttctagtcagtaaacatttgtaaaaaatactgtttcactaatacttac tgttaactgtcttgagagaaaaaaatatgagagaactattgtttggggaagttcaagtgatctttcaatatcattactaacttcttccactttttccagaatttgaatattaacgctaaaggtgtaagacttcagatttcaaattaatctttctata ttttttaaatttacagaatattatataacccactgctgaaaaagaaacaaatgattgttttagaagttaaaggtcaatat tgattttaaaatattaag

Figure 12P - (2)

C TO SUPPLIE	PEC FE TECK	ED 2003 A CENTER 1600/2900	<b>7</b> 5/76		
Sequence Strand Length	12 Complement 13 Lead 12 Lead 14 Lead 14 Complement 13 Lead 12 Complement 13 Complement 13 Complement 14 Complement 15 Complement 15 Complement 15 Complement	8 Complement 8 Complement 8 Complement 8 Lead 8 Lead 8 Lead 8 Lead 8 Complement 8 Complement	8 Complement 8 Complement 8 Complement 8 Lead 8 Lead 8 Complement	7 Complement 8 Complement 8 Lead 7 Lead 7 Lead 7 Lead 7 Complement	7 Complement 7 Lead 7 Complement 7 Complement 7 Lead 7 Complement 7 Complement 7 Complement 7 Lead 7 Lead 7 Lead 7 Lead
Sequence	AGGTAAAAGTCA AGAGTAGAGGGCA AGTTCAAAAGGGCA AGGCCAGCAGGGCC AGGCCAGCAGGGC AGGCCAAGGTCA ATGCCAAGGTCA AGGTAATGAGGTA AGGTAATGAGGTCA	CAGCCCANT CAGCCCCANT CAGCCCCTC CAGCCCCTC CAGCCCCAT CAGCCCCAT CAGCCCCAC	CACCTICAC CACCCTAC CACCCTAC CACCCTCA CACCCTCA CACCCTCA	AGGGTCA AAGGGTCA ATGGGTCA TAGGGTCA TGGGTCA AGGGTCA AAGGTCA	ACACCTG ACACATG TCATGTG TCATGTG TCATGTG TCACTTG TCACTTG TCACTTG TCACTTG TCACTTG TCACTTG TCACTTG TCACTTG
Location in SEQ ID No. 14	11997 11997 21150 21150 21150 21150 2015 2015 2015	11111111111111111111111111111111111111	4970 - 4977 - 4970 - 4977 - 6487 - 6494 - 6755 - 6572 - 6734 - 7041 - 7048 - 70	166-172 1666-173 268-173 2218-370 2218-2225 3649-2225 668-2225 669-2649	473-479 536-541 537-541 655-661 965-661 1053-1069 1105-1110 1111-1111
Де	<b>터터터터터터터터</b>			<pre>% retinoic acid receptor related) % retinoic acid receptor related % retinoic acid receptor related</pre>	CBP-1 or "E box"  CBP-1 or "E box"



FEB 1 9 2003

# TECH CENTER 1600|2900





TCAAATG TCAAATG ACACTG ACACTG ACACTG ACACTG ACACTG TCAACTG TCAACTG

2. SREBP-1 or "E box"

5. SREBP-1 or "E box"

6. SREBP-1 or "E box"

7. SREBP-1 or "E box"

8. SREBP-1 or "E box"

9. SREBP-1 or "E box"